


**Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco  
San Francisco, California**


Prepared for

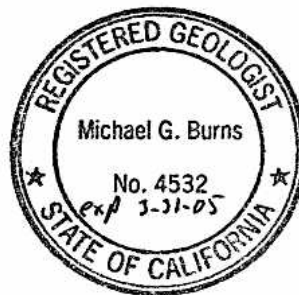
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December 16, 2004



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## DISTRIBUTION



## ACRONYM LIST

bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAP	Corrective Action Plan
DQO	data quality objective
EM	electromagnetic
FDS	fuel distribution system
GPR	ground penetrating radar
GPS	global positioning system
IT	IT Corporation
kg	kilogram(s)
L	liter(s)
LTTD	low temperature thermal desorption
MACTEC	MACTEC Engineering and Consulting, Inc.
MAG	magnetics
MDL	method detection limit
MTBE	methyl tert butyl ether
µg	microgram(s)
mg	milligram(s)
NAD	North American Datum
NPS	National Park Service
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PID	photoionization detector
PLLW	Presidio lower-low water
QAPP	Quality Assurance Project Plan
QC	quality control
RRF	relative response factor
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SCR	Site Cleanup Requirement
TPH	total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOCs	volatile organic compounds



## EXECUTIVE SUMMARY

This report presents the results of the Data Gaps Investigation conducted at the Building 207/231 Area (Site) at the Presidio of San Francisco, California. Investigation activities were performed to address data gaps identified from review of chemical, hydrogeologic, and historical data collected during previous investigations. Previous investigation results indicated that soil and shallow groundwater in specific areas had been affected with petroleum hydrocarbons and other related chemicals. These data gaps needed to be addressed to further characterize the nature and extent of soil and groundwater contamination at the Site and provide additional data needed to support the preparation of the Corrective Action Plan (CAP) that will document evaluation and selection processes for cleanup of soil and groundwater at the Site.

Field work was performed between March 22 and May 12, 2004, and consisted of a geophysical investigation, drilling 34 soil borings, collecting soil and groundwater samples from the borings, and analyzing the samples for various chemicals compounds. The borings were drilled in specific areas at the site where additional data needed to be collected for site characterization. These areas included:

- Former Buildings 38, 38-A, and Garage
- Former Building 207 Exchange Service Station Area (Former Buildings 202, 203, 206, and 207)
- Former Building 208 – Car Wash and Sump 208
- Building 228 – Former Bakery / Exchange Laundry
- Former Section BR10-1, Presidio Fuel Oil Distribution System (FDS) Pipeline
- Building 230 – Warehouse / Stores / Currently Presidio Archaeology Group and Railroad Spur
- Building 231 Area - Former Post Exchange Gas Service Station
- Building 271 – Former Blacksmith Shop and Garage.

The sampling program was developed based on chemicals expected to be present based on past use of these areas and previous investigation results.

The analytical results were compared with screening levels to identify areas that will require further action. Results of the investigation resulted in newly-identified areas of vadose zone soil contamination as described below:

- Former Sump 208 – soil contains TPH, PAHs, and metals above screening levels
- Garage south of Former Building 38 – soil contains TPH, PAHs, and metals above screening levels
- Stained area west of Building 230 – soil contains TPH above screening levels
- Loading dock east of Building 230 – soil contains TPH above screening levels
- Former Building 271 – soil contains PAHs and metals above screening levels



- Former Building 38 – soil contains metals and PAHs above screening levels.

In addition, the previously-identified area of TPH contamination in the vicinity of the former Building 231 USTs was expanded northeast, west, and south of the former USTs.

Investigation findings also further characterized the extent of contaminated groundwater in the vicinity of: (1) the Building 231 former hoists and former USTs, and (2) the former Building 207 fuel islands and USTs. Groundwater samples from the Building 231 area contained TPH as diesel, TPH as fuel oil, TPH as gasoline, VOCs, PAHs and nickel above screening levels and groundwater at the Building 207 area contained TPH as diesel, gasoline, benzene, and MTBE above screening levels.

PAHs and nickel were detected above screening levels in groundwater samples collected at various locations throughout the Site, including Building 231, Building 38, the garage south of Building 38, Sump 208, and Building 207. The PAHs may be present from various sources including past use of these buildings.

Although the areal extent of contaminated soil is not fully characterized at all locations and the areal extent of PAHs in groundwater has not been fully assessed, it appears that adequate data have been collected to evaluate and select remedial alternatives as part of the CAP. The need and scope of further characterization, to include additional sampling prior to and during remediation activities, will be addressed in the CAP.

Although the Corrective Action Plan (CAP) has not been prepared yet, the currently available information suggests that excavation of soil will be the more likely remedial option, given the relatively small area of exceedances and the constraints of surrounding structures and underground utilities. The needed additional characterization can be economically accomplished through the collection and analysis of confirmation samples as the excavation proceeds. In addition, the remedial options to be developed in the CAP will need to take into account future plans for the Tennessee Hollow Riparian Corridor and the possible expansion of the Crissy Marsh. Specific details of the corridor and marsh plans are not yet available, but will be better known at the time of the CAP preparation. Therefore, characterization and remedial actions for certain areas are better handled within the CAP.



## 1.0 INTRODUCTION

This Data Gaps Investigation Report (Report) has been prepared by MACTEC Engineering and Consulting, Inc. (MACTEC) on behalf of the Presidio Trust (Trust) to present the results of the data gaps investigation for the Building 207/231 Area (Site) at the Presidio of San Francisco, California (Plate 1). Investigation activities were performed to address data gaps identified from review of chemical, hydrogeologic, and historical data collected during previous investigations and summarized in the Data Gaps Investigation Work Plan (MACTEC, 2004). These data gaps needed to be addressed to further characterize the nature and extent of soil and groundwater contamination at the Site and provide additional data needed to prepare the Corrective Action Plan (CAP) that will document evaluation and selection processes for cleanup of soil and groundwater at the Site. This report has been prepared to transmit data collected as part of the Data Gaps field investigation program. A comprehensive evaluation of the data collected during this and previous investigations will be presented in the CAP.

This Report is organized as follows:

Section 2.0 — Provides a description of the Site

Section 3.0 — Summarizes the data quality objectives developed in the Work Plan and addressed by this Data Gaps investigation

Section 4.0 — Describes the field investigation including geophysical clearance and search activities, drilling of the borings, and the collection of soil and groundwater samples

Section 5.0 — Presents the results of the geophysical clearance and search activities, and soil and groundwater chemical analyses

Section 6.0 — Presents a summary of the investigation

Section 7.0 — Lists references cited in the text.

Appendix A – Presents the screening levels used to screen the soil and groundwater collected for this investigation from the Data Gaps Work Plan (MACTEC, 2004) and have been updated to include the chemicals newly detected during this investigation.

Appendix B – Describes the geophysical methodology used to clear boring locations and search for possible underground storage tanks (USTs) and subsurface pipes.

Appendix C - Presents the exploratory boring logs for the borings installed under this Data Gaps investigation.

Appendix D - Presents chemical analytical reports and chain-of-custody forms for the soil and groundwater samples.

Appendix E – Presents the Quality Control Summary Report, summarizing the data validation results for soil and groundwater samples.



## 2.0 SITE LOCATION AND DESCRIPTION

The Building 207/231 Area is an approximately 8 acre site generally bounded to the north by the Crissy Marsh and Vallejo Street, to the west by Building 204, to the south by the Building 223, and to the east by the parking area adjacent to Building 230 (Plate 1). The Building 207/231 Area includes the former or present locations of Buildings 38, 119, 202, 203, 206, 207, 208, 227, 228, 229, 230, 231, 271, and the area just west of former Buildings 119 and 271 (Plates 2 and 3). The Site consists of former and existing buildings, paved parking areas, roadways, the Highway 101/Doyle Drive overpasses, and some landscaping. The area gently slopes to the north with elevations ranging from approximately 10 to 25 feet above the Presidio lower-low water vertical datum (PLW; *IT, 1999a*).

Regional Water Quality Control Board Order SCR R2-2003-0080, (Order; *RWQCB, 2003a*) defines a freshwater ecological protection zone that includes most of the southern portion of the Site. Reuse plans for the zone include restoration of the Tennessee Hollow drainage corridor through this area. The drainage corridor will include a freshwater stream that will traverse the ecological protection zone and discharge into the tidal wetlands of Crissy Field. The area of the Site designated as a freshwater ecological protection zone is shown on Plates 2 and 3. The Order also defines a saltwater protection zone that includes the northern portion of the Site north of the Doyle Drive overpass. There is a possibility that the Crissy Marsh area may be extended just south of Building 231. Plates 2 and 3 illustrate the fresh water and salt water area designations described in the Order.

Site use histories for the former and existing buildings that are part of the Building 207/231 Area were discussed in detail in the Work Plan. The specific areas investigated under this Data Gaps investigation are briefly summarized below. Each area includes buildings that have been grouped on the basis of their geographic location at the Site and/or similar use histories. Plates 2 and 3 show the building and UST locations.

**Former Buildings 38, 38-A, and Garage** – Former Buildings 38, 38-A, and a former garage are located in the northeast portion of the Site (Plate 2). Former Building 38 was identified as an oil station on December 1921 and June 1928 maps of the Site (*NPSA Maps, 1921 and 1928*); available records do not indicate whether Building 38 had fuel or oil underground storage tanks (USTs) or, if they were present, whether the USTs had been removed. The proximity to railroad tracks suggests that the building may have supplied oil, equipment, and supplies for railroad trains. Alternately, the building may have stored fuel or heating oil. Past use of Building 38-A is not known. On a 1934 map of the Presidio, there was a building located southeast of Building 38 that was designated as a “Garage” (*NPSA Map, 1934*). This designation suggests that automotive, truck, railroad vehicle, and equipment maintenance and repair activities may have been performed in this area of the site.

**Former Building 207 Exchange Service Station Area (Former Buildings 202, 203, 206, and 207)** – Former Buildings 202, 203, 206, and 207 are located in the northern portion of the Site. Building 206 was the former Exchange Service Station canopy, Building 207 was the former Compressor Building, and Buildings 202 and 203 were storage sheds for the Service Station. The Building 207 Exchange Service Station was constructed in 1969. Plate 2 shows the locations of the former buildings, three former USTs (Tanks 207.1, 207.2, and 207.3), and locations of two possible USTs. The possible UST locations are based on a 1968 proposed site plan for the service station (*NPSA Map, 1968*). It is not known if these two USTs were installed at the Site, and if they were installed, if they were removed. Buildings 202, 203, 206, and 207 were demolished in July 1996 along with the removal the three 10,000 to 10,750-gallon USTs 207.1, 207.2, and 207.3 and associated pump islands and product piping. As part of the UST removal, contaminated soil was excavated to 12 feet bgs (Plate 2). The excavation was backfilled with pea gravel to 4.5 feet bgs, soil treated using low temperature thermal desorption (LTTD) to 18 inches, and



imported soil from 18 inches to the ground surface. In 1998, additional contaminated soil was excavated to 5.5 feet bgs from the area north of Former Building 206 and the former USTs (Plate 2; *IT, 1999a*). The second excavation was backfilled with gravel and imported soil.. The former excavation area was subsequently landscaped as part of the Crissy Field Restoration.

**Former Building 208 – Car Wash** - Building 208 is located south of Building 206, in the central portion of the Site. The car wash was built in 1969 and demolished on June 4, 1999 (*Trust, 1999*). Plans for the car wash showed an equipment room, one automatic bay, and two manual car wash bays. In addition, the car wash had a sump, designated Sump 208, in the manual bay adjacent to the equipment room (Plate 2). The sump had a 2-stage sand and oil water separator that collected water from the car wash bays and was fitted with piping that connected to either the sanitary sewer or storm drain system. The sump area was overexcavated and excavation confirmation soil samples collected on June 8, 1999.

**Building 228 - Bakery / Exchange Laundry** – Building 228 is located in the southern portion of the Site. Building 228 was constructed in March 1909 for use as a bakery. It was later used as the exchange laundry (*NPS, 1990, 1992*). The building was converted to a warehouse sometime in the 1940s. Use as a laundry reportedly began sometime between 1950 and 1973. Water analysis records, dated in the 1970s, for unspecified industrial water treatment are still within the building. This suggests that treatment of waste water, presumably associated with the dry cleaning operations, was occurring in the 1970s. Reportedly, dry cleaning equipment in Building 228 has not been in service since 1984 or 1985. The equipment is still inside the building. From 1984 through at least 1990, the building was used for drop-off and pick-up of dry cleaning with the actual cleaning performed at an off-post facility (*ANL 1989*). Three 750-gallon USTs (Tanks 228.1, 228.2, 228.3) were located on the north side of Building 228 and contained Stoddard solvent used for dry cleaning. The USTs were removed on June 14, 1993.

**Section BR10-1, Presidio Fuel Oil Distribution System (FDS) Pipeline** - Section BR10-1 of the Presidio Fuel Oil Distribution System (FDS) Pipeline extended along the west side of Halleck Street, crossed Halleck Street to Building 228, passed along the south side of the building, and entered the building on the east side as shown on Plate 2. The BR10-1 section consisted of a 6-inch-diameter steel pipe (*IT, 1999b*). Construction of the Presidio FDS Pipeline began in the 1900s (*MW, 1995b*). Records of the installation of the section routed to Building 228 have not been located and its date of installation is unknown. A July 25, 1908 building plan shows a 20 HP boiler at the location where the FDS Pipeline entered Building 228, suggesting the line may have been installed by 1908. Use of the FDS pipeline ceased prior to November 1975 (*IT, 1999b*). In August of 1996, the Section BR10-1 pipeline was removed or abandoned. The excavation was backfilled with LTTD-treated soil.

**Building 230 – Warehouse / Stores / Currently Presidio Archaeology Group and Railroad Spur** - Building 230 is located along Gorgas Avenue in the east portion of the site, as shown on Plate 2. Former Building 43 (58 by 225 feet), slightly longer than the later Building 230 (75 by 136 feet), was originally constructed at this location in 1917 (*NPS, 1990, 1992*) and remained in this configuration until at least December 1934 (*NPSA Maps, 1909, 1930?, 1934*). The 1935 aerial photograph shows the location to be vacant (*PAS, 1935*) and aerial photographs taken after 1936 show Building 230. In 1987, the Post Exchange moved into and upgraded the building to be used as a warehouse (*NPS, 1993*). In 1992, the building was used as a department store (*NPS, 1992*). In 1993, the building was in use as the Post Exchange (Four Seasons and Toyland) and warehouse (*NPS, 1993*). The building is currently used by the Presidio Trust and the NPS archeology group.

A railroad spur was present along the eastern side of Building 230 from at least June 1916 (*NPSA Map, 1916*) to as late as October 16, 1961 (*NPSA Map, 1961*) and possibly 1969 (*PAS, 1969*).



The building has a raised loading dock along the eastern length of the building that feasibly was used for loading and unloading from the railroad spur.

**Building 231 Area - Post Exchange Gas Service Station** - The Building 231 area is located in the central portion of the Site along the east side of Halleck Street and is bounded by Gorgas Avenue to the north, Building 230 to the east, and Building 228 to the south. This area has been occupied by several buildings identified as “Building 231” with different locations and footprints all in the same localized area. Various known and potential UST locations are shown on Plate 2. A fire station and service stations were shown at locations northeast of the current Building 231 location as early as July 2, 1941 (*NPS, 1990*). The more recent and larger service station was constructed sometime between December 15, 1950 and April 23, 1958. Four USTs (Tanks 231.4 through 231.7) were removed from the Site in 1988. The current Building 231 previously contained five hydraulic lifts (Lifts H1 through H5). The above-ground portions of the hydraulic lifts were removed on January 28, 2000, and the subsurface portions of the hydraulic lifts were removed between December 9 and 20, 2002. There was also a 1,000-gallon gasoline UST (Tank 231.2) located between Buildings 228 and 231 and a 600-gallon waste oil UST (Tank 231.1) located beneath the south wall of Building 231, as shown on Plate 2. Both of these USTs were removed in 1996.

**Building 271 – Blacksmith Shop and Garage** - Former Building 271, located in the northwest portion of the site on the west side of Halleck Street just north of Building 119 (the future Building 201), is shown on the 1930 and 1934 maps (*NPSA Maps 1930?, 1934*), but not on the 1909 map (*NPSA Map, 1909*). The 1935 aerial photograph shows the building was removed to make way for the Doyle Drive overpass. The building is identified in an undated photograph as a blacksmith shop (*J&S, 2001*) and a garage on the 1930 map (*NPSA Map 1930?*).

### *Previous Investigation Results*

Previous investigation results are described in detail in the Work Plan (*MACTEC, 2004*). These results indicate that vadose zone soil and shallow groundwater in and downgradient of two areas, the Building 231 USTs and fuel islands and the Building 206/207 USTs and fuel islands, have been affected with petroleum hydrocarbons. The areal extent of petroleum hydrocarbons in these areas needed to be further characterized. In addition, as described in Section 3.0, there are additional potential source areas at the Site that need to be investigated before proceeding with the CAP.



### 3.0 DATA QUALITY OBJECTIVES

This data gaps investigation was conducted to fill data gaps that were identified from review of previously collected data. These data gaps need to be filled in order to sufficiently characterize the nature and extent of contaminants in soil and groundwater so that remedial alternatives can be evaluated and selected as part of the CAP. A preliminary step of the data gaps evaluation included comparing analytical results from previous investigations to screening levels. These screening levels comprised the most conservative of applicable cleanup levels presented in SCR-R2-2003-0080 (based on planned use of the Site) and petroleum hydrocarbon cleanup levels (*BBL, 2004*), which have been approved by the RWQCB. These screening levels are presented on Tables A1 and A2 of Appendix A. The data gaps were described in detail in the Data Gaps Work Plan, which included identifying the data gaps as data quality objectives (DQOs). The DQOs were presented in the Work Plan which was reviewed and approved by the RWQCB. The DQOs are listed below by known or potential source areas. The background section of this report provides a description of and site use histories for the specific areas for which additional data are needed to support the preparation of the CAP.

#### **Former FDS Pipeline Section BR10-1**

DQO 1: The concentration of benzo(a)pyrene in the LTTD-treated soil used to backfill the excavation adjacent to Building 228 was unknown and may exceed screening levels.

DQO 2: It was not known if a fuel oil tank was still present beneath the building slab where the FDS Pipeline entered Building 228.

#### **Former UST 231.1**

DQO 3: The extent of total petroleum hydrocarbons (TPH) as gasoline, diesel, and fuel oil, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, polychlorinated biphenyl (PCB) 1016, lead, nickel, and zinc above screening levels in soil and groundwater downgradient of the former UST (Tank 231.1) located beneath Building 231 had not been characterized.

#### **Former UST 231.2**

DQO 4: The extent of TPH as gasoline above screening levels in vadose zone soil and groundwater west, north, and east of Boring 231SB33 was unknown.

DQO 5: The extent of TPH as gasoline and diesel, and benzene above screening levels in vadose zone soil and groundwater north of the former UST 231.2 was unknown.

#### **Hydraulic Lifts H1 through H6**

DQO 6: The extent of hydraulic oil in soil and groundwater downgradient of former Hydraulic Oil Lifts H1 through H6 have not been adequately characterized.



**Former USTs 231.4 through 231.7**

DQO 7: The extent of TPH as gasoline and benzene above screening levels in vadose zone soil and groundwater in the area of the former USTs 231.4 through 231.7 had not been adequately characterized.

DQO 8: It was not known if up to five previous Building 231 USTs were still present at the Site.

**Historically Visibly Stained Area West of Building 230**

DQO 9: The extent of TPH as diesel and fuel oil and benzene above screening levels in vadose zone soil between Buildings 230 and 231 had not been adequately characterized.

DQO 10: It was not known if a UST is present in the area of Boring 231SB65.

**Former Railroad Spur Adjacent to Building 230**

DQO 11: The extent of TPH in the diesel range and lead in vadose zone soil had not been adequately characterized.

**Former Building 271 Garage**

DQO 12: Soil and groundwater samples had not been collected within the footprint of the former garage.

**Former Sump 208**

DQO 13: A confirmation soil sample and a groundwater sample were not collected beneath black, odorous, oily sand removed from beneath the former sump and the location subsurface pipes oriented toward the former sump was not known.

**Former Oil and Later Gasoline Station 38**

DQO 14: It was not known if USTs were still present in the area of former Building 38.

DQO 15: Soil and groundwater samples had not been collected within the footprint of the former oil and gasoline station and associated garage.

**Former USTs 207.1, 207.2, and 207.3**

DQO 16: The extent of methyl tertiary butyl ether (MTBE) above screening levels in groundwater in the area of the former USTs 207.1 through 207.4 had not been adequately characterized.

DQO17: It was not known if USTs were still present in other locations at the former Building 207 service station.



**Former USTs 228.1, 228.2, and 228.3**

DQO 18: It was not known if Stoddard Solvent was present in soil and groundwater along the northern edge of the UST excavation.



## 4.0 FIELD INVESTIGATION

The field investigation was conducted between March 22 and May 12, 2004, in accordance with the *Data Gaps Investigation Work Plan, Building 207/231 Area, Presidio of San Francisco*, dated March 3, 2004 (MACTEC, 2004), and the *Presidio-Wide Quality Assurance Project Plan, Sampling and Analysis Plan, Presidio of San Francisco, San Francisco, California*, dated April 2001 (Tetra Tech, 2001; known as the Presidio-Wide QAPP). The Work Plan was reviewed and approved by the RWQCB.

The following field investigation activities were conducted as summarized below:

- Drilling locations were geophysically cleared for subsurface utilities
- Potential USTs and subsurface piping locations were geophysically surveyed
- Soil and HydroPunch borings were drilled using direct-push methods
- All soil and HydroPunch borings were lithologically logged
- Soil and groundwater samples were collected from soil borings, preserved (as applicable), and submitted to the analytical laboratory for chemical analyses
- The locations of the borings were surveyed by a licensed surveyor.

### 4.1 Subsurface Geophysical Clearance and Survey

On March 22 through 28, 2004, MACTEC performed a geophysical investigation to clear the boring locations for subsurface utilities. In addition, the geophysical investigation was conducted to search for potential USTs and piping identified from historical records at the following locations:

- DQO 17 - Possible USTs just east of the Building 207 fueling station
- DQO 14 - Possible USTs at former Building 38
- DQO 13 - Piping oriented toward the former Sump 208
- DQO 2 - Possible UST inside Building 228
- DQO 8 - Possible USTs at the former 1941 to 1950 Building 231
- DQO 8 - Possible 1951 USTs just east of the former Building 231 fuel islands.

Magnetic (MAG) and electromagnetic surveys (EM) were performed in these areas. If EM or MAG anomalies were identified, then the area was also surveyed using a ground penetrating radar (GPR). Appendix B describes the geophysical methods used during the investigation. During the geophysical search activities, the inside of Building 228 was inspected at the location where the FDS pipeline previously entered Building 228. No obvious indication of a subsurface or surface fuel oil tank was observed. A large metal boiler was present near the location where the FDS pipeline would have entered



the building, preventing the use of geophysical methods to search for a potential UST beneath the building slab. Therefore, DQO 2 (geophysically search for UST inside Building 228 at the end of the FDS pipeline) was not addressed using geophysical methods.

## 4.2 Drilling and Sampling Soil and HydroPunch® Borings

Soil and/or groundwater samples were collected from thirty-four 2- to 16-foot-deep borings drilled at the locations shown on Plates 2 and 3. Borings were advanced and samples collected in accordance with the procedures described in the Data Gaps Work Plan (*MACTEC, 2004*) and as described in the following sections. Table 1 summarizes the sampling and analytical program.

### 4.2.1 Soil Sampling

Soil samples were collected from 34 borings drilled and lithologically logged from 2- to 16-feet bgs to evaluate soil lithology and collect samples for laboratory analysis. The borings were drilled, logged, and sampled with a direct-push drill rig following protocols described in the Work Plan and the Presidio-Wide QAPP. One to four soil samples were collected for chemical analyses from each boring. Soil samples were collected to assess the presence of contamination that may have migrated vertically and laterally from a source area. After the borings were logged and sampled, they were backfilled with a cement/bentonite grout. The following describes the rationale for and locations of the soil borings that were drilled and sampled for this investigation. Table 1 summarizes the analytical program for soil samples collected from these borings and Plate 2 shows boring locations. Boring logs are provided in Appendix C.

#### 4.2.1.1 Former Building 38

To address DQO 15 (Soil samples had not been collected within the footprint of the former oil and gasoline station and associated garage), sixteen soil samples were collected from four 10.5- to 12-foot deep borings (38SB100 to 38SB103) drilled in the former Building 38 area to evaluate if concentrations of TPH as gasoline, diesel, and fuel oil, volatile organic compounds (VOCs), PAHs, and arsenic, cadmium, chromium, lead, nickel, and zinc were present in soil above the screening levels. Boring 38SB100 was drilled within the footprint of former Building 38, Boring 38SB101 was drilled adjacent to the footprint of former Building 38A, and Borings 38SB102 and 38SB103 were drilled in the footprint of the former garage. Four soil samples were collected from each boring at intervals ranging between 0.5 and 1.5 feet, 3 and 4.5 feet, 5 and 5.5 feet, and 9.5 and 10 feet bgs.

#### 4.2.1.2 Former Building 207

To address DQO 16 (The extent of methyl tertiary butyl ether (MTBE) above screening levels in soil in the area of the former USTs 207.1 through 207.4 had not been adequately characterized), one soil sample each was collected from 12-foot-deep Boring 207SB104 and from 16-foot-deep Boring 207SB105 drilled in the former Building 207 area to assess if concentrations of TPH as gasoline, diesel, and fuel oil, VOCs, and lead were present in soil above the screening levels. Boring 207SB104 was drilled just downgradient of the possible Building 207 USTs and east of the former Building 207 fuel islands. Boring 207SB105 was drilled along the southern edge of the former fuel islands.

#### 4.2.1.3 Former Building 208

To address DQO 13 (A confirmation soil sample was not collected beneath black, odorous, oily sand removed from beneath the former sump and the location subsurface pipes oriented toward the former sump was not known), three soil samples were collected from one 12-foot-deep boring (208SB100)



drilled adjacent to a former sump associated with the former vehicle washing station at the former Building 208 area to evaluate if concentrations of TPH as diesel and fuel oil, and arsenic, cadmium, chromium, lead, nickel, and zinc were present in soil above screening levels. The three soil samples were collected at 6, 7.5 and 10 feet bgs.

#### 4.2.1.4 Building 228

To address DQO 18 (It was not known if Stoddard Solvent was present in soil along the northern edge of the UST excavation), three soil samples were collected from the 16-foot-deep borings 228SB101 and 228SB102 drilled at the Building 228 area to assess whether concentrations of TPH as gasoline, diesel, and fuel oil, VOCs, and arsenic, cadmium, chromium, lead, nickel, and zinc were present in soil above screening levels. Both borings were drilled within the former UST excavation located north of Building 228. Two soil samples were collected at depths of 4.5 and 11 feet bgs from Boring 228SB101 and one soil sample was collected from Boring 228SB102 at a depth of 7.5 feet bgs.

#### 4.2.1.5 FDS Backfill

To address DQO 1 (The concentration of benzo(a)pyrene in the LTDD-treated soil used to backfill the excavation adjacent to Building 228 was unknown and may exceed screening levels), one soil sample was collected at a depth of 4 feet bgs from the 5-foot-deep Boring 228SB100 drilled within LTDD-treated backfill near the southwest corner of Building 228 to assess if concentrations of PAHs were present above screening levels.

#### 4.2.1.6 Building 230

To address DQO 11 (The extent of TPH in the diesel range and lead in vadose zone soil had not been adequately characterized), eight soil samples were collected from the 10.5-foot-deep Borings 230SB100 and 230SB101 drilled adjacent to the railroad spur on the east side of Building 230 to evaluate if concentrations of TPH as diesel and fuel oil, PAHs, or lead were present in soil above screening levels. Four soil samples were collected from each boring at 3, 5.5, 7.5, and 10 feet bgs.

#### 4.2.1.7 Building 231

This section describes tasks performed to address the following DQOs:

- DQO 3: The extent of total petroleum hydrocarbons (TPH) as gasoline, diesel, and fuel oil, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, polychlorinated biphenyl (PCB) 1016, lead, nickel, and zinc above screening levels in soil downgradient of the former UST (Tank 231.1) located beneath Building 231 had not been characterized)
- DQO 4: The extent of TPH as gasoline above screening levels in vadose zone soil west, north, and east of Boring 231SB33 was unknown.
- DQO 5: The extent of TPH as gasoline and diesel, and benzene above screening levels in vadose zone soil north of the former UST 231.2 was unknown.
- DQO 6: The extent of hydraulic oil in soil downgradient of former Hydraulic Oil Lifts H1 through H6 have not been adequately characterized.



- DQO 7: The extent of TPH as gasoline and benzene above screening levels in vadose zone soil in the area of the former USTs 231.4 through 231.7 had not been adequately characterized.

At the Building 231 area, 65 soil samples were collected from seventeen 2- to 16-foot-deep borings (231SB100 to -116) to evaluate impacts to soil from former known USTs, suspected USTs, former hydraulic lifts, and visibly stained surface areas. All samples were analyzed for TPH as gasoline, diesel, and fuel oil. The sampling and analytical program varied between the borings as described below:

- 44 soil samples collected from 11 borings (231SB100, -101, -106, and -108 to -115) were also analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). Four soil samples were collected from each boring at intervals ranging from between 2.5 to 3, 5 to 5.5, 7 to 7.5, and 9.5 to 10 feet bgs.
- Eight soil samples collected from Borings 231SB102 and 231SB116 were also analyzed for VOCs, and arsenic, cadmium, chromium, lead, nickel, and zinc. Four soil samples were collected from each boring at 3, 5, 7, and 10 feet bgs.
- Four soil samples collected from the 10.5-foot-deep Boring 231SB103 were also analyzed for VOCs, PAHs, and arsenic, cadmium, chromium, lead, nickel, and zinc. Soil samples were collected from the boring at 3, 5, 7, and 10 feet bgs.
- Eight soil samples collected from the 12-foot-deep Borings 231SB104 and 231SB105 were analyzed for VOCs, PAHs, PCBs, and lead, nickel, and zinc. Soil samples were collected at 3 feet, between 5 and 5.5 feet, 7 feet, and 10 feet bgs.
- One soil sample collected at a depth of 1 foot bgs from the 2-foot-deep Boring 231SB107 was also analyzed for BTEX.

#### 4.2.1.8 Former Building 271

To address DQO 12 (Soil samples had not been collected within the footprint of the former garage), the 10.5-foot-deep Boring 271SB100 was drilled at the northern end of the former garage to assess whether past use of the garage had impacted soil at that location. Soil samples were collected from the boring at 2, 3.5, 5, 7, and 9.5 feet bgs and were analyzed for TPHg, TPHd, TPHfo, PAHs, arsenic, cadmium, chromium, lead, nickel, and zinc.

#### 4.2.1.9 Soil Re-sampling

On May 12, 2004, MACTEC drilled and collected 20 samples from borings drilled adjacent to Borings 231SB104, 231SB105, 231SB114, 38SB100, 38SB101, 38SB102 and 38SB103 because holding times for soil samples collected from those borings were exceeded for TPH as diesel and fuel oil analysis. The seven borings were drilled and samples collected as previously described. The following samples were collected for analysis for TPH as diesel and fuel oil:

- Boring 231SB104 – samples from 3, 5, 7, and 11-foot bgs. Samples were collected at 11 feet instead of the planned depth of 10 feet because of poor sample recovery.
- Boring 231SB105 - samples from 3, 5.5, 7, and 11-foot bgs. Samples were collected at 11 feet instead of the planned depth of 10 feet because of poor sample recovery.
- Boring 231SB114 - samples from 3 and 5-foot bgs



- Boring 38SB100 - samples from 1, 3, 5.5, and 10-foot bgs
- Boring 38SB101 – samples from 0.5, 3, 5.5, and 10-foot bgs
- Boring 38SB102 – samples from 10-foot bgs
- Boring 38SB103– samples from 10-foot bgs.

The analytical results presented in Table 2 and Plate 2 for these borings and sample depths are those from the re-sampling event.

#### 4.2.2 Groundwater Sampling

Groundwater samples were collected from 30 borings that were drilled, logged, and sampled with a direct push rig following protocols described in the Work Plan and the Presidio-Wide QAPP (Plate 3). One groundwater sample was collected for analyses from each boring. In addition, three duplicate groundwater samples were collected and submitted for chemical analysis.

Once total depth of the boring was reached, PVC screen was installed in the borehole and samples were collected as water entered the borehole. In some cases, the borings filled very slowly and samples had to be collected over several hours or groundwater was allowed to collect in the borehole overnight and the samples were collected the following day. In cases where samples were collected over several hours or the day following drilling, the time that the first sample container was filled was entered into the database. Once the required sample volume was collected, the boring was backfilled with a cement/bentonite grout. The following describes the rationale for and locations of the groundwater samples collected for this investigation. Table 1 summarizes the analytical program for groundwater samples and Plate 3 shows the groundwater sample locations.

##### 4.2.2.1 Former Building 38

To address DQO 15 (Groundwater samples had not been collected within the footprint of the former oil and gasoline station and associated garage), groundwater samples were collected from each of the four 10.5- to 12-foot-deep Borings 38SB100 to 38SB103 drilled in the former Building 38 area to evaluate if concentrations of TPH as gasoline, diesel, and fuel oil, VOCs, PAHs, arsenic, cadmium, chromium, lead, nickel, and zinc were present in groundwater above the screening levels.

##### 4.2.2.2 Former Building 207

To address DQO 16 (The extent of methyl tertiary butyl ether (MTBE) above screening levels in groundwater in the area of the former USTs 207.1 through 207.4 had not been adequately characterized), groundwater samples were collected from each of the six 10- to 16-foot-deep Borings 207SB100 to 207SB105 drilled in the former Building 207 area to assess whether concentrations of TPH as gasoline, diesel, and fuel oil, VOCs, or lead were present in groundwater above the screening levels. Borings 207SB100 to 207SB103 were drilled and sampled downgradient of former USTs 207.1 through 207.4 where previously collected groundwater sample results exceeded screening levels. Boring 207SB104 was drilled downgradient of possible USTs east of the former Building 207 fuel islands. Boring 207SB105 was drilled south of the former Building 207 fuel islands.



#### 4.2.2.3 Former Building 208

To address DQO 13 (A confirmation groundwater sample was not collected beneath black, odorous, oily sand removed from beneath the former sump and the location subsurface pipes oriented toward the former sump was not known), one groundwater sample was collected from the 12-foot-deep Boring 208SB100 drilled at the location of a former sump associated with a former vehicle washing station at former Building 208 area to evaluate if concentrations of TPH as diesel and fuel oil, or arsenic, cadmium, chromium, lead, nickel, and zinc were present in groundwater above screening levels.

#### 4.2.2.4 Building 228

To address DQO 18 (It was not known if Stoddard Solvent was present in groundwater along the northern edge of the UST excavation), groundwater samples were collected from each of two 16-foot-deep Borings 228SB101 and 228SB102 drilled in the former UST excavation north of Building 228 to assess whether concentrations of VOCs, TPH as gasoline [specifically Stoddard Solvent], diesel, and fuel oil, or arsenic, cadmium, chromium, lead, nickel, and zinc were present in groundwater above screening levels.

#### 4.2.2.5 Building 231

This section describes tasks performed to address the following DQOs:

- DQO 3: The extent of total petroleum hydrocarbons (TPH) as gasoline, diesel, and fuel oil, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, polychlorinated biphenyl (PCB) 1016, lead, nickel, and zinc above screening levels in groundwater downgradient of the former UST (Tank 231.1) located beneath Building 231 had not been characterized)
- DQO 4: The extent of TPH as gasoline above screening levels in groundwater west, north, and east of Boring 231SB33 was unknown.
- DQO 5: The extent of TPH as gasoline and diesel, and benzene above screening levels in groundwater north of the former UST 231.2 was unknown.
- DQO 6: The extent of hydraulic oil in groundwater downgradient of former Hydraulic Oil Lifts H1 through H6 have not been adequately characterized.
- DQO 7: The extent of TPH as gasoline and benzene above screening levels in groundwater in the area of the former USTs 231.4 through 231.7 had not been adequately characterized.

For the Building 231 area, groundwater samples were collected from sixteen 10- to 16-foot-deep Borings 231SB100 through 231SB106, and 231SB108 through 231SB116, drilled in the Building 231 area to assess whether there was an impact to groundwater due to the presence of former USTs, hydraulic lifts, and associated pipelines. All samples were analyzed for TPH as gasoline, diesel, and fuel oil. Additional analyses performed on samples from the borings are as follows:

- Groundwater samples collected from the eleven 10- to 16-foot-deep Borings 231SB100, 231SB101, 231SB106, and 231SB108 to 231SB115 were also analyzed for BTEX.
- Groundwater samples collected from the two 11- and 10.5-foot Borings 231SB102 and 231SB116 were also analyzed for VOCs, and cadmium, chromium, lead, nickel, and zinc.



- Groundwater samples collected from the 10.5-foot-deep Boring 231SB103 were also analyzed for VOCs, PAHs, arsenic, cadmium, chromium, lead, nickel, and zinc.
- Groundwater samples collected from the two 12-foot-deep Borings 231SB104 and 231SB105 were also analyzed for VOCs, PAHs, PCBs, lead, nickel, and zinc.

#### 4.3 Boring Location Survey

The 34 borings drilled as part of this investigation, existing Monitoring Wells 231GW21 and 231GW22, Piezometers 231PZ01 through 231PZ04, the four corners of Buildings 228, and 231, and the north and east corner of Building 230 were surveyed for horizontal coordinates and vertical elevations. The horizontal locations were surveyed relative to the 1927 North American Datum (NAD27), State Plane Coordinate System, California Zone III, to an accuracy of 0.1 foot. Horizontal coordinates were used to show the well and soil boring locations on the site plan. The vertical elevations were surveyed relative to the Presidio Lower Low Water (PLLW) datum. The survey data are included in Appendix C.

#### 4.4 Investigation-Derived Waste

Investigation-derived waste (IDW) was placed in two 55-gallon drums and secured at the Site. Within one week, the Trust transported the drums to the Central Magazine area where the Trust manages investigation-derived waste. The drums were combined with soil from a remedial action at Baker Beach Disturbed Areas (BBDAs) 3 and 4. The soil from BBDAs 3 and 4 was manifested as California hazardous waste and transported to and disposed at Buttonwillow, a Class I hazardous disposal facility. Manifests are presented in *Draft Construction Completion/Certification Report for Baker Beach Disturbed Areas 3 & 4, Presidio of San Francisco, California (Treadwell & Rollo, in preparation)*.

#### 4.5 Quality Assurance Samples

Field quality control (QC) samples that were collected as part of this investigation included the following:

- Source Water Blank – A source water blank (Sourcewaterblank) was collected that consisted of a sample of the rig water used for equipment decontamination. This sample was analyzed for TPH as gasoline, diesel, and fuel oil, VOCs, PAHs, PCBs, arsenic, cadmium, chromium, lead, nickel, and zinc.
- Trip Blank – One trip blank was analyzed for each container containing samples for volatile organic analysis.
- Equipment Rinsate Blanks – Equipment rinsate blanks were collected after sampling devices (drive shoe, PVC casing, and disposable bailer) were decontaminated by pouring water over or through the sampling equipment and funneling the water into a sampling container. One equipment rinsate blank was collected per reusable sampling device for every ten samples collected in the field or one sample per day. The rinsate blanks were analyzed for the analytical suite for the primary field samples collected that day.
- Field Duplicates – Field duplicates were collected at a frequency of one sample for every 10 groundwater samples. Because of the inherent heterogeneity of soil at the site, soil field duplicate samples were not collected during this investigation as stated in the Work Plan.

Table 1 list the QC samples collected for this investigation and the analytical program performed on the QC samples.



## 4.6 Laboratory Analysis and Data Validation

Soil and groundwater samples were analyzed by Sequoia Analytical Laboratory in accordance with the Presidio-Wide QAPP, with the exceptions described below. Analytical test methods used for this investigation are listed below.

- TPH as diesel (petroleum hydrocarbons in the C12-C24 range) – USEPA Test Method 8015B with silica gel cleanup (SW3630A)
- TPH as fuel oil (petroleum hydrocarbons in the C24-C36 range) – USEPA Test Method 8015B with silica gel cleanup (SW3630A)
- TPH as gasoline (petroleum hydrocarbons in the C7-C12 range) – USEPA Test Method 8015B
- BTEX – USEPA Test Method 8021
- VOCs – USEPA Test Method 8260B
- PAHs – USEPA Test Method 8270CSIM
- Polychlorinated Biphenyls – USEPA Test Method 8082
- Arsenic – USEPA Test Method 6010/6020
- Cadmium – USEPA Test Method 6010/6020
- Chromium – USEPA Test Method 6010/6020
- Lead – USEPA Test Method 6010/6020
- Nickel – USEPA Test Method 6010/6020
- Zinc – USEPA Test Method 6010/6020.

Chemical results for this investigation were validated in accordance with the Presidio-Wide QAPP and results are summarized in the Quality Control Summary Report presented in Appendix E. A review of the data validation findings indicates the following significant data quality issues:

- Non-detect results for acetone and vinyl acetate in samples 231SB103(10.5), TB040504, 231SB102(11), 231SB103(10.5), 231SB104(12), 231SB105(12), 231SB116(10.5), 38SB102(12), TB040504 and were qualified as rejected (R) due to minimum average relative response factor (RRF) failure. This should not have significant impact on use of the data because the results were rejected for only two VOCs. If solvents were present in the groundwater at these depths and locations, other VOCs would be detected.
- The reported result for 2-chloroethyl vinyl ether in sample 228SB102(7.5) was qualified as rejected in this sample because the initial calibration did not include target analyte 2-chloroethyl vinyl ether. This should not have significant impact on use of the data because this is the only VOC with rejected results. If solvents were present in the soil sample, other VOCs would be detected.
- Results for fluorene and naphthalene were qualified as rejected in sample 271SB100(7) because the percent recoveries for two of three surrogates were less than 10%. The results for the remaining



results in this sample were qualified as estimated with a low bias (J-/UJ) due to surrogate percent recovery failure. This should not have significant affect on evaluation of the presence or absence of these analytes at this location because results for the samples collected above and below this sample (at 5 and 9.5 feet bgs) were not rejected and showed concentrations of PAHs below screening levels.

In addition to data validation, both reporting and method detection limits for soil and groundwater sample results collected during this investigation were compared to screening levels to assess whether the analytical results were effective in identifying cleanup level exceedances. Tables listing results with reporting limits exceeding screening levels are presented as Tables E4 and E5 in Appendix E. This comparison indicates the following:

**Soil Results** - Nondetect results for 53 soil samples had reporting limits (RLs) that exceeded screening levels for various compounds including TPH as gasoline, TPH as diesel, PCBs, and VOCs. Except for three samples (228SB101[11], 228SB102[7.5], and 231SB108[7]), method detection limits (MDLs) were below the cleanup levels. Because detections between the MDL and RL were reported as estimated values (J-flagged), any detections above the screening level would have been reported for these analytes. Because MDLs for nondetect results for benzene and TPHg in 228SB101[11], VOCs in 228SB102[7.5], and TPHg and benzene 231SB108[7] were above screening levels, the presence or absence of these chemicals above screening levels cannot be definitively known. However, because these samples had detected petroleum-related chemicals (unknown gasoline and diesel hydrocarbons, TPH as gasoline, diesel, and fuel oil, xylenes, and ethylbenzene) at concentrations exceeding screening levels. Therefore, remediation of soil in these areas will be addressed in the CAP.

**Groundwater Results** - Results of a comparison of detection limits to screening levels shows that RLs and MDLs for 17 primary and 2 duplicate groundwater samples and one QC sample exceeded screening levels for various analytes including arsenic, several VOCs, PCBs, and several PAHs. Seventeen of these samples had detected chemicals that exceeded screening levels; therefore, groundwater at these locations will be considered for remediation in the CAP. However, the presence of these specific analytes at these locations can not be fully assessed because of elevated MDLs. The CAP will need to consider that these compounds may also be present in the groundwater at these locations.

The two samples that had RLs and MDLs above screening levels but no detected compounds exceeding screening levels are as follows:

- 207HP102(12) – MDLs for 1,1-dichloroethene, 1,2-dichloroethane, and carbon tetrachloride exceeded screening levels.
- 231SB116 – MDL for 1,1-dichloroethene exceeded the screening level.

The CAP will need to consider that these compounds may also be present above screening in groundwater at these two locations.

#### 4.7 Exceptions and Deviations from QAPP and Work Plan

The following presents project-specific exceptions and deviations to the QAPP and Work Plan that were not documented in the Work Plan.

- Exceptions to QAPP reporting limits for selected metals and PAHs were proposed in the Work Plan (MACTEC, 2004). The proposed reporting limits were considered acceptable because they were less than applicable screening levels.



- Groundwater samples collected for metals analysis were not field filtered. All groundwater samples were delivered to the laboratory on the same day as collected. The laboratory was directed to use and filter unpreserved one liter amber bottles for metals analyses instead of the nitric acid preserved polyethylene bottles, and performed the sample filtration using the standard 0.45 micron filtration that would be used in the field within one to four days of sampling. It is possible that the delay in filtering may have an unknown effect on the sample concentrations. In regards to arsenic, it is possible that the results may be biased low. The groundwater metals data has been qualified as filtered by the laboratory.
- Because of an error by the laboratory, soil sample 228SB101(11) was not logged in or analyzed for EPA 8260 as indicated on the COC. However, the primary purpose of this sample was to analyze for Stoddard Solvent using TPH as gasoline range analyses. Therefore, this error does not affect the evaluation of this location.
- As anticipated in the Work Plan, there were changes in specified soil sample depths from the Work Plan based on sample recovery and observed evidence of contamination. Except for the five samples that are described below, the sample depths varied from the depth specified in the Work Plan by only 0.5 foot.
  - 38SB103(1.5) – the original target sample depth was 0.5 feet. A sample was collected at 1.5 feet because of poor sample recovery at 0.5 to 1.0 feet. A MS/MSD sample was collected at 2.0 to 2.5 feet from this boring.
  - 38SB103(5) – the original target sample depth was 3 feet. A sample was collected at 5 feet rather than 3 feet because the MS/MSD sample was collected at 2 to 2.5 feet and the 3 foot sample was considered to be too similar in depth to the MS/MSD sample to represent a good profile of contaminants with depth. However, because there was already a 5-foot sample proposed, a sample was collected from 7.5 feet so that the originally planned number of samples would be collected from the boring.
  - 208SB100(6) – the original target sample depth was 5 feet. A sample was collected at 6 feet because of poor sample recovery.
  - 228SB101(11) – this sample was added because soil at this depth showed elevated photoionization detector (PID) readings.
  - 228SB102(7.5) – original target sample depth was 4 feet. A sample was collected at 7.5 feet because soil at this depth showed elevated PID readings.
- The final cleared and surveyed location of Boring 38SB101 is south of the proposed location shown on the Work Plan plates because the boring was marked based on its distance from the Doyle Drive overpass and the historic locations of the Building 38 buildings are approximate.
- The final cleared location of Boring 231SB107 is northeast of the proposed location shown on the Work Plan plates. The boring was planned to be located within an area of staining as approximated from a 1948 aerial photograph. There was no evidence of surface staining at the time the boring was marked, and there were limited numbers of existing features to use as reference points. As a result, the surveyed location of the boring did not fall within the digitized limits of the soil staining. However, based on the presence of petroleum hydrocarbons at concentrations above screening levels, it appears that the boring was located in an area of contaminated soil.



## 5.0 INVESTIGATION RESULTS

The following presents the findings of the Data Gaps Investigation. The results are generally organized by area.

### 5.1 Geophysical Survey

The purpose of the geophysical survey was to search for:

- Possible USTs just east of the Building 207 fueling station
- Possible USTs at former Building 38
- Piping at former Sump 208
- Possible UST at the end of the FDS pipeline leading to Building 228
- Possible USTs at former Building 231 (1941 to 1950 location)
- Possible USTs just east of the former Building 231 fuel islands
- Possible UST at the location of previously-drilled Boring 231SB65.

Appendix B presents Plates B1 through B7 illustrating the results of the geophysical survey.

The MAG and EM surveys detected numerous anomalous responses that were attributed to observed surface features and mapped utilities. It should be noted that the magnetic data, in particular, were greatly affected by adjacent buildings, fences, and overpasses. No distinct MAG signatures indicative of potential USTs were observed. Although the EM data were also affected by the surrounding above-ground cultural features, numerous linear anomalies indicative of additional underground utilities were identified in the area of investigation. Additionally, localized EM anomalies possibly indicative of potential USTs were identified in the Building 207/231 area. However, follow-up GPR profiling at these locations did not show definitive UST images or images of large buried objects indicative of a potential UST.

Accordingly, MACTEC concluded that no USTs are present within the areas surveyed. MACTEC recognizes that GPR, EM, and MAG geophysical methods are subject to limitations when searching for USTs. These limitations are detailed in Appendix B. The findings for the specific areas investigated are discussed below.

#### 5.1.1 Building 38

This area was investigated to address the following DQO:

- DQO 14: USTs may still be present in the area of former Building 38.

Investigation findings and the MAG and EM data from the Building 38 area are shown on Plates B6 and B7, respectively. No MAG responses characteristic of a UST or large metal object were observed, nor were any anomalous EM responses characteristic of a UST or large metal object observed. Accordingly, no follow-up GPR survey was performed at the Building 38 area.



### 5.1.2 Building 207

This area was investigated to address the following DQO:

- DQO17: USTs may still be present in other locations at the former Building 207 service station.

Investigation findings and the MAG and EM data from the Building 207 site are shown on Plates B4 and B5, respectively. No MAG responses characteristic of a UST or large metal object were observed. The EM data show an anomalous response typical of a large buried metal object within a 20- by 40-foot area. Subsequently, the EM anomaly centered on grid coordinates 20E, 40N was investigated with the GPR.

The GPR follow-up investigation was conducted over the rectangular area that extended from grid coordinates 10E, 20N to grid coordinates 30E, 60N. Based on site-specific conditions and the equipment used, the GPR profiles were limited to a maximum depth of 4 feet bgs. No images indicative of a UST were observed on the GPR records; suggesting that there are no USTs in the area surveyed. The anomalous EM response was attributed to metal reinforcement in the concrete, underground utilities, or some other type of buried metal object.

### 5.1.3 Building 208

This area was investigated to address one data gap identified in DQO 13 - the location subsurface pipes oriented toward Former Sump 208 was not known.

Historical records indicate that the sump may have been connected to either the sanitary sewer or storm drain system. The GPR images of the 40- by 40-foot area surrounding Boring 208SB100 indicated disturbed subsurface conditions and confirmed that the sump and piping had been removed from the area. Utility location surveys identified two unknown utilities that terminated prior to reaching the sump location (Plate B8). There are no records indicating whether the ends of the identified pipes had been sealed.

### 5.1.4 FDS Pipeline to Building 228

This area was investigated to address the following DQO:

- DQO 2: A fuel oil tank may still be present beneath the building slab where the FDS Pipeline entered Building 228.

During the geophysical search activities, the inside of Building 228 was inspected at the location where the FDS pipeline previously entered Building 228. No obvious indications of a subsurface or surface fuel oil tank were observed. A large metal boiler was present near the location where the FDS pipeline would have entered the building, preventing the use of geophysical methods to search for a potential UST beneath the building slab. Therefore, DQO 2 was not met using geophysical methods. This DQO will be further addressed in the CAP.

### 5.1.5 Building 231

This area was investigated to address the following DQO:

- DQO 8: Up to five previous USTs may still be present at Building 231.

Investigation findings and the MAG and EM data from the Building 231 area are shown on Plates B2 and B3, respectively. No MAG responses characteristic of a UST or large metal object were observed. The



EM data showed an anomalous response typical of a large buried metal object within a 20- by 40-foot area. Based on the EM findings, the anomalous area centered on grid coordinates 70E, 60N was investigated using a GPR.

The GPR follow-up investigation was conducted over the rectangular area that extended from grid coordinates 50E, 30N to grid coordinates 90E, 90N. No images indicative of a UST were observed from review of the GPR records. Accordingly, the GPR data indicate that USTs are not present within the upper 2- to 4-feet in the area surveyed. The anomalous EM response is attributed to metal reinforcement in the concrete, underground utilities, or some other type of buried metal object.

#### 5.1.6 Boring 231SB65 Area

This area was investigated to address the following DQO:

- DQO 10: A UST may be present in the area of Boring 231SB65.

The fill material and residual petroleum hydrocarbons encountered in the previously-drilled Boring 2312SB65 suggested the possible presence of a UST at this location. No MAG responses characteristic of a UST or large metal object were observed in the vicinity of the former boring, nor were any anomalous EM responses characteristic of a UST or large metal object observed. Accordingly, no follow up GPR investigation was performed in the vicinity of the former boring. Accordingly, it appears that there are no USTs at this location.

#### 5.1.7 Summary

In summary, the geophysical survey did indicate evidence of USTs in the Building 207/231 area. The geophysical survey identified two subsurface unknown utilities that terminated prior to reaching the former Sump 208 location. It is not known if either of these two pipes were originally connected to Sump 208.

### 5.2 Site Geology

Appendix C presents the exploratory boring logs for the borings installed under this Data Gaps investigation. Review of these logs indicates that fill is present throughout the site at thicknesses ranging from 1.5 feet to at least 16 feet (the maximum depth of the borings drilled for this investigation). Soil designated as fill was based on the observed presence of debris. Fill material was highly variable, composed of lean clay, silt, sand, and gravel with debris. The debris included fragments of brick, shell, glass, slag, asphalt, chert and serpentinite gravel, visqueen, and resin-like material.

In most cases, the fill was underlain by poorly graded, sand, clayey sand, and silty sand. The sand may either be in-place shallow marine sand (beach deposits) or dredged sand that was placed as fill. The clayey sand contained from 20 to 40 percent fat clay and may represent a transitional unit between the marine sand and underlying Bay Mud. The shallow sand or fill units are underlain at depths of 7.5 to greater than 16 feet by a fine-grained aquitard consisting primarily of shallow Bay Mud. The Bay Mud consists of fat clay and fat clay with sand, containing trace to common fibrous organic material. Shallow Bay Mud was observed in four borings drilled in the northern portion of the site and one boring drilled in the southern portion of the Site. An approximate 0.5-foot thick lens of black organic silt was observed directly overlying the Bay Mud or interbedded within shallow marine sands in four borings drilled at the northern portion of the Site. The maximum depth explored was to 16 feet bgs. Deeper lithologic units were not encountered during this investigation and are therefore not discussed. To illustrate the



subsurface geology, the following three geologic cross-sections were created that incorporate data from this Data Gaps Investigation with lithologic data from previous investigations:

- Section A-A' is located north to south from Mason Street to Building 228 (Plate 4).
- Section B-B' is located west to east from Building 201 to the former USTs 231.4 through 321.7 to the railroad spur on the east side of Building 230 (Plate 5).
- Section C-C' is located west to east through the former USTs 207.1 through 207.3 to Building 38 (Plate 6).

The locations of the sections are shown on Plate 2.

Groundwater was first encountered in the borings at depths ranging from 4.5 to 14 feet bgs. The occurrence of groundwater was first noted within fill and shallow marine sand units. Although borings drilled during this investigation encountered wet soil at depths as shallow as 4.5 feet bgs, free water was not present in sufficient quantities and volumes for sampling until the borings were advanced to depths ranging from 10 to 16 feet bgs. Water entered most of the borings at very slow rates.

### 5.3 Chemical Analytical Results

This section presents the soil and groundwater analytical results by area. Analytical results for chemicals detected in soil samples collected for this investigation are presented in Tables 3 and 4. Analytical results for chemicals detected in groundwater samples collected for this investigation are presented in Tables 4 and 5. Appendix D contains the CD of chemical analytical reports and chain-of-custody forms for the soil and groundwater samples collected for this investigation. The soil and groundwater results were compared to the screening levels to identify areas where further action may be necessary. Where duplicate samples were collected, the higher of the two sample results are discussed in the text. Plates 2 and 3 post the soil and groundwater results, respectively, that exceeded screening levels. The results are presented by area in the following sections by distinct source areas, generally from south to north and in the order of the DQOs identified in the Work Plan. Plates 2a, 2b, 3a, and 3b provide expanded views of the UST 207 and the Building 231 and 230 Areas with the soil and groundwater results. In addition, Plates 2a, 2b, 3a, and 3b include concentration contours of selected petroleum hydrocarbon compounds. These figures show base 10 logarithmic isoconcentration contours for TPH compounds, benzene, and MTBE and are not based on cleanup or screening levels for the site. Cleanup levels will be selected in the CAP.

#### 5.3.1 Former FDS Pipeline Section BR10-1

This area was investigated to address the following DQO:

- DQO 1: The concentration of benzo(a)pyrene in the LTDD soil used to backfill the excavation adjacent to Building 228 is unknown and may exceed screening levels.

Boring SB228100 was drilled within the LTDD backfill material to assess if PAHs are present in the backfill at concentrations above screening levels. PAHs (anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene) were detected in the soil sample at concentrations above the reporting limits but below screening levels. Therefore, it appears that the LTDD fill at this location does not contain contaminants above screening levels and DQO 1 has been met.



### 5.3.2 Former UST 231.1

This area was investigated to address the following DQO:

- DQO 3: The extent of TPH (gasoline, diesel, and waste oil), PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene), PCB Arochlor 1016, and metals (lead, nickel, and zinc) above screening levels in soil and groundwater downgradient of former UST 231.1 (beneath Building 231) has not been characterized.

Borings 231SB103, 231SB104, and 231SB105 were drilled downgradient of the former UST 231.1 to further characterize the extent of chemicals detected at concentrations above screening levels. TPH (gasoline, diesel, and fuel oil range), VOCs (benzene, 2-butanone, acetone, ethylbenzene, methylene chloride, toluene, and xylenes), PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorine, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene), the PCB Arochlor 1016, and metals (arsenic, cadmium, chromium, lead, nickel, and zinc) were detected in at least one of the soil samples from these borings at concentrations above reporting limits.

Screening levels were exceeded in the following soil samples as described below:

- Boring 231SB103
  - at 3 feet bgs – arsenic at 4.4 micrograms per kilogram ( $\mu\text{g/kg}$ ) and benzo(a)pyrene at 65  $\mu\text{g/kg}$
  - at 5 feet bgs - benzo(a)pyrene at 210  $\mu\text{g/kg}$ , benzo(b)fluoranthene at 280  $\mu\text{g/kg}$ , benzo(b+k)fluoranthene at 370  $\mu\text{g/kg}$ , lead at 69 micrograms per kilogram ( $\text{mg/kg}$ ), and zinc at 83  $\text{mg/kg}$
  - at 7 feet bgs – TPH as fuel oil at 1,100  $\text{mg/kg}$  and TPH as diesel at 430  $\text{mg/kg}$ .

No exceedances were identified in the sample collected from this boring at 10 feet bgs.

- Boring 231SB104
  - at 3 feet bgs – TPH as gasoline at 120,000  $\mu\text{g/kg}$ , lead at 110  $\text{mg/kg}$ , and zinc at 59  $\text{mg/kg}$
  - at 5 feet bgs – TPH as gasoline at 68,000  $\mu\text{g/kg}$ , TPH as fuel oil at 470  $\mu\text{g/kg}$ , benzene at 150  $\mu\text{g/kg}$ , benzo(a)pyrene at 27  $\mu\text{g/kg}$ , lead at 300  $\text{mg/kg}$ , and zinc at 310  $\text{mg/kg}$ .

No exceedances were identified in the samples collected from this boring at 7 and 10 feet bgs.

- Boring 231SB105
  - at 3 feet bgs – zinc at 85  $\text{mg/kg}$
  - at 5.5 feet bgs – TPH as unknown hydrocarbons in the gasoline range at 270,000  $\mu\text{g/kg}$ , TPH as diesel and as unknown hydrocarbons in the diesel range at 1,100  $\text{mg/kg}$ , TPH as fuel oil at 2,300  $\text{mg/kg}$ , lead at 110  $\text{mg/kg}$ , and zinc at 47  $\text{mg/kg}$
  - at 7 feet bgs – PCB (Arochlor 1016) at 60  $\mu\text{g/kg}$ , lead at 70  $\text{mg/kg}$ , and zinc at 73  $\text{mg/kg}$ .

No exceedances were identified in the sample collected from this boring at 10 feet bgs.



Screening levels were exceeded in groundwater samples at the following locations:

- 231SB103 at 10.5 feet bgs – unknown hydrocarbons in the diesel range at 0.94 milligrams per liter (mg/L) and benzo(b)fluoranthene at 0.038 micrograms per liter (µg/L)
- 231SB104 at 12 feet bgs – TPH as gasoline at 840 µg/L, TPH as unknown hydrocarbons in the diesel range at 1.9 mg/L, 1,2-dichloroethane at 0.86 µg/L, benzene at 49 µg/L, µg/L, benzo(a)anthracene at 0.094 µg/L, benzo(a)pyrene at 0.11 µg/L, benzo(b)fluoranthene at 0.19 µg/L, benzo(b+k)fluoranthene at 0.23 µg/L, chrysene at 0.11 µg/L, and nickel at 15 µg/kg
- 231SB105 at 12 feet bgs – TPH as gasoline at 1,200 µg/L, TPH as diesel and as unknown hydrocarbons in the diesel range at 1.7 mg/L, TPH as fuel oil at 1.1 mg/L.

The goals of DQO 3 have been met because the extent of the selected chemicals has been further characterized and the desired additional data have been collected to support preparation of the CAP.

### 5.3.3 Former UST 231.2 and Hydraulic Lifts H1 through H6

This area was investigated to address the following DQOs:

- DQO 4: The extent of TPH as gasoline above screening levels in vadose zone soil west and north of Boring 231SB33 is unknown.
- DQO 5: The extent of TPH as gasoline and diesel, and benzene above screening levels in vadose zone soil and groundwater downgradient of the former UST 231.2 beneath Building 231 is unknown.
- DQO 6: The extent of hydraulic oil in soil and groundwater from past use of former Hydraulic Oil Lifts H1 through H6 have not been characterized in the area downgradient of Building 231.

Borings 231SB100 through 231SB103 and 231SB116 were drilled downgradient of former UST 231.2 to further characterize the extent of chemicals previously detected at concentrations above screening levels. TPH (gasoline, diesel, and fuel oil range), VOCs (benzene, 2-butanone, acetone, ethylbenzene, methylene chloride, and toluene), PAHs (acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene), and metals (arsenic, cadmium, chromium, lead, nickel, and zinc) were detected in soil samples from these borings at concentrations above reporting limits.

No soil screening levels were exceeded in soil samples from Borings 231SB100 and 231SB116. Screening levels were exceeded in soil samples at the following locations:

- Boring 231SB101
  - at 5.5 feet bgs – TPH as unknown hydrocarbons in the diesel range at 300 mg/kg and TPH as fuel oil at 320 mg/kg.

No exceedances were identified in the soil samples collected from this boring at 3 and 10 feet bgs.

- Boring 231SB102
  - at 3 feet bgs - lead at 79 mg/kg and zinc at 95 mg/kg



- at 5 feet bgs – zinc at 170 mg/kg.

No exceedances were identified in the soil samples collected from this boring at 7 and 10 feet bgs.

- Boring 231SB103

- at 3 feet bgs – arsenic at 4.4 µg/kg and benzo(a)pyrene at 65 µg/kg
- at 5 feet bgs - benzo(a)pyrene at 210 µg/kg, benzo(b)fluoranthene at 280 µg/kg, benzo(b+k)fluoranthene at 370 µg/kg, lead at 69 mg/kg, and zinc at 83 mg/kg
- at 7 feet bgs – TPH as fuel oil at 1,100 mg/kg and TPH as diesel at 430 mg/kg.

No exceedances were identified in the soil sample collected from this boring at 10 feet bgs.

No groundwater screening levels were exceeded in groundwater samples from Boring 231SB116. Screening levels were exceeded in groundwater samples at the following locations:

- Boring 231SB100 at 10 feet bgs – TPH as unknown hydrocarbons in the diesel range at 0.55 mg/L
- Boring 231SB101 at 10.5 feet bgs – TPH as unknown hydrocarbons in the diesel range at 1.9 mg/L
- Boring 231SB102 at 12 feet bgs – Arsenic at 10 µg/L
- Boring 231SB103 at 10.5 feet bgs – unknown hydrocarbons in the diesel range at 0.94 mg/L and benzo(b)fluoranthene at 0.038 µg/L.

The goals of DQOs 4, 5, and 6 have been met because the extent of potential chemical contaminants has been further characterized and the desired additional data have been collected to support preparation of the CAP.

#### 5.3.4 Former USTs 231.4 through 231.7

This area was investigated to address the following DQO:

- DQO 7: The extent of TPH as gasoline and benzene above screening levels in vadose zone soil and groundwater in the area of former USTs 231.4 through 231.7 has not been adequately characterized.

Borings 231SB108 through 231SB115 were drilled downgradient of former USTs 231.4 through 231.7 to further characterize the extent of chemicals previously detected at concentrations above screening levels. TPH (gasoline, diesel, and fuel oil range) and benzene, ethylbenzene, toluene, and xylenes were detected in soil samples from these borings at concentrations above the reporting limits.

No soil screening levels were exceeded in soil samples from Borings 231SB109, 231SB110, 231SB114, and 231SB115. Screening levels were exceeded in soil samples at the following locations:

- Boring 231SB108
  - at 3 feet bgs – TPH as diesel at 270 mg/kg, TPH as fuel oil at 800 mg/kg, and benzene at 5.3 µg/kg
  - at 5 feet bgs – TPH as diesel at 450 mg/kg, TPH as fuel oil at 820 mg/kg, and benzene at 6.4 µg/kg



- at 7 feet bgs – TPH as gasoline at 2,900,000 µg/kg, TPH as diesel at 260 mg/kg, TPH as fuel oil at 690 mg/kg, ethylbenzene 23,000 µg/kg, and xylenes at 13,000 µg/kg
- at 10 feet bgs – benzene at 18 µg/kg.
- Boring 231SB111
  - at 5 feet bgs – TPH as unknown hydrocarbons in the diesel range at 130 mg/kg and TPH as fuel oil at 820 mg/kg.

No exceedances were identified in the soil samples collected from this boring at 2.5, 7, and 10 feet bgs.

- Boring 231SB112
  - at 3 feet bgs – TPH as fuel oil at 170 mg/kg
  - at 5.5 feet bgs – TPH as fuel oil at 660 mg/kg
  - at 10 feet bgs – TPH as unknown hydrocarbons in the diesel range at 200 mg/kg and TPH as fuel oil at 410 mg/kg.

No exceedances were identified in the soil samples collected from this boring at 7.5 feet bgs.

- Boring 231SB113
  - at 5.5 feet bgs – TPH as unknown hydrocarbons in the diesel range at 240 mg/kg and TPH as fuel oil at 1,300 mg/kg
  - at 10 feet bgs – TPH as unknown hydrocarbons in the diesel range at 120 mg/kg and TPH as fuel oil at 810 mg/kg.

No exceedances were identified in the soil samples collected from this boring at 3 and 7.5 feet bgs.

No groundwater screening levels were exceeded in groundwater samples from Borings 231SB109 through 231SB114. Screening levels were exceeded in groundwater samples at the following locations:

- Boring 231SB108 at 14.5 feet bgs – TPH as gasoline at 2,400 µg/L, TPH as unknown hydrocarbons in the diesel range at 0.83 mg/L, benzene at 330 µg/L, and ethylbenzene at 50 µg/L
- Boring 231SB115 at 16 feet bgs – TPH as unknown hydrocarbons in the diesel range at 0.60 mg/L.

The goals of DQO 7 have been met because the extent of potential chemical contaminants related to historical use of the area has been further characterized and the desired additional data have been collected to support preparation of the CAP. Soil with petroleum hydrocarbon concentrations that exceed screening levels extends into the area beneath the Doyle Drive/Highway 101 overpass but does not appear to extend beyond the overpass to the Sump 208 area. The presence of the overpasses prevents further effective soil characterization and limits remedial options. However, CalTrans is planning to replace the overpasses and will be excavating this area at a currently-unspecified time in the future. When the overpasses are removed, the characterization of soil conditions beneath the overpasses can be completed and remediation implemented, as needed.



### 5.3.5 Historically Visibly Stained Area West of Building 230

This area was investigated to address the following DQO:

- DQO 9: The extent of TPH as diesel and fuel oil, and benzene above screening levels in vadose zone soil in the area between Buildings 230 and 231 has not adequately characterized.

Borings 231SB106 and 231SB107 were drilled within and downgradient of the former visibly stained area west of Building 230 to assess whether soil and groundwater this area contains petroleum hydrocarbons at concentrations above screening levels. TPH (diesel and fuel oil range) and benzene, ethylbenzene, toluene, and xylenes (BTEX) were detected in soil samples from these borings at concentrations above reporting limits.

Screening levels were exceeded in soil samples at the following locations:

- Boring 231SB106
  - at 5 feet bgs – TPH as unknown hydrocarbons in the diesel range at 370 mg/kg and TPH as fuel oil at 2,000 mg/kg.

No exceedances were identified in the soil samples collected from this boring at 3, 7, and 10 feet bgs

- Boring 231SB107 at 1 feet bgs – TPH as fuel oil at 210 mg/kg.

Groundwater samples were collected from Boring 231SB106, located within the historically visibly stained area, to assess if groundwater had been affected by petroleum hydrocarbons. Screening levels were not exceeded in the groundwater sample.

The goals of DQO 9 have been met because the presence of TPH and BTEX in the former visibly stained area have been characterized and the desired additional data have been collected to support preparation of the CAP. Soil with petroleum hydrocarbon concentrations that exceed screening levels may extend north into the Gorgas Avenue area. The probable soil remedial method for this area is likely to be shallow soil excavation. When the soil excavation is performed, soil confirmation samples will be collected along all sides of the excavation. If the soil analytical results exceed screening levels, then the excavation will be extended as far as needed, depending on access considerations.

### 5.3.6 Former Railroad Spur Adjacent to Building 230

This area was investigated to address the following DQO:

- DQO 11: The extent of TPH in the diesel range, PAHs, and lead in vadose zone soil has not been adequately characterized.

Borings 230SB100 and 230SB101 were drilled along the former railroad spur east of Building 230 to assess whether vadose zone soil in this area contains petroleum hydrocarbons, PAHs, or lead at concentrations above screening levels. TPH (diesel and fuel oil range), PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene), and lead were detected in soil samples from these borings at concentrations above the reporting limits.

Screening levels were exceeded in soil samples at the following locations:



- Boring 230SB100
  - at 3 feet bgs – acenaphthylene at 78 µg/kg, benzo(a)anthracene at 380 µg/kg, benzo(a)pyrene at 390 µg/kg, benzo(b)fluoranthene at 530 µg/kg, benzo(b+k)fluoranthene at 710 µg/kg, pyrene at 880 µg/kg, and lead at 66 mg/kg
  - at 5.5 feet bgs – TPH as fuel oil at 250 mg/kg.

No exceedances were identified in the samples collected from this boring at 7.5 and 9.5 feet bgs.

- Boring 230SB101
  - at 3 feet bgs - TPH as fuel oil at 150 mg/kg, benzo(a)pyrene at 380 µg/kg, benzo(b)fluoranthene at 690 µg/kg, and benzo(b+k)fluoranthene at 860 µg/kg, and lead at 52 mg/kg.

No exceedances were identified in samples collected from this boring at 5.5, 7.5, and 10 feet bgs.

The goals of DQO 11 have been met because the presence and concentrations potential contaminants in the vicinity of the former railroad spur adjacent to the Building 230 loading dock have been assessed and the desired additional data have been collected in support of the CAP. Soil with petroleum hydrocarbon concentrations that exceed screening levels may extend north and south along the former railroad track area beyond the former loading dock area. The probable soil remedial method for this area is likely to be shallow soil excavation. When the soil excavation is performed, soil confirmation samples will be collected along all sides of the excavation. If the soil analytical results exceed screening levels, then the excavation will be extended as far as needed, depending on access considerations.

### 5.3.7 Former Building 271 Garage

This area was investigated to address the following DQO:

- DQO 12: Soil and groundwater samples have not been collected within the footprint of the former garage.

Boring 271SB100 was drilled at the location of the former garage in former Building 271 to assess whether soil and groundwater in this area contains petroleum hydrocarbons, VOCs, PAHs, or metals at concentrations above screening levels. TPH (diesel and fuel oil range), VOCs (2-butanone and acetone), PAHs (acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene), and metals (arsenic, cadmium, chromium, lead, nickel, and zinc) were detected in soil samples from these borings at concentrations above the reporting limits.

Screening levels were exceeded in the following soil samples:

- Boring 271SB100
  - at 3 feet bgs – Lead at 56 mg/kg and zinc at 120 mg/kg.
- 271SB100 at 5 feet bgs – benzo(a)pyrene at 450 µg/kg.

No exceedances were identified in the soil samples collected from this boring at 2, 7, and 9.5 feet bgs.



Screening levels were exceeded in the following groundwater sample:

- 271SB100 at 10.5 feet bgs – benzo(a)anthracene at 0.062 µg/L, benzo(b)fluoranthene at 0.051 µg/L, benzo(b+k)fluoranthene at 0.051 µg/L, and chrysene at 0.043 µg/L.

The goals of DQO 12 have been met because the presence and concentrations of TPH, VOCs, PAHs, and metals in the vicinity of the former Building 271 garage have been evaluated and the desired additional data have been collected in support of the CAP.

### 5.3.8 Former Sump 208

This area was investigated to address the following DQO:

- DQO 13: A confirmation soil sample and a groundwater sample were not collected beneath black, odorous, oily sand removed from beneath the former sump.

Boring 208SB100 was drilled at the location of the former Sump 208 to assess whether soil or groundwater at this location contains petroleum hydrocarbons, PAHs, or metals in at concentrations above screening levels. TPH (diesel and fuel oil range), PAHs (acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene), and metals (arsenic, cadmium, chromium, lead, nickel, and zinc) were detected in soil and groundwater samples from this boring at concentrations above reporting limits.

Screening levels were exceeded in the following soil samples:

- Boring 208SB100
  - at 6 feet bgs – TPH as fuel oil at 320 mg/kg, arsenic at 5.7 mg/kg, lead at 69 mg/kg, and zinc at 79 mg/kg
  - at 7.5 feet bgs – benzo(a)pyrene at 100 µg/kg and zinc at 44 mg/kg.

No exceedances were observed in the soil sample collected from this boring at 10 feet.

Screening levels were exceeded in the following groundwater sample:

- 208SB100 at 12 feet bgs – benzo(a)anthracene at 1.3 µg/L, benzo(a)pyrene at 1.3 µg/L, benzo(b)fluoranthene at 1.5 µg/L, benzo(b+k)fluoranthene at 2.0 µg/L, benzo(k)fluoranthene at 0.51 µg/L, chrysene at 1.5 µg/L, indeno (1,2,3-cd)pyrene at 0.38 µg/L, and nickel at 9.0 mg/L.

The goals of DQO 12 have been met because the presence and concentrations of petroleum hydrocarbons, PAHs, and metals at former Sump 208 have been assessed and the desired additional data have been collected in support of the CAP.

### 5.3.9 Former Oil and Gasoline Station at Building 38

This area was investigated to address the following DQO:

- DQO 15: Soil and groundwater samples have not been collected within the footprint of the former oil and gasoline station and associated garage.



Borings 38SB100 through 38SB103 were drilled at the location of former Buildings 38, 38-A, and Garage to evaluate whether soil and groundwater at those locations contains petroleum hydrocarbons, VOCs, PAHs, or metals at concentrations above screening levels. TPH (gasoline, diesel, and fuel oil range), VOCs (1,2-dichloroethene, toluene, trichloroethene, vinyl chloride, 2-butanone, acetone, methylene chloride, and carbon disulfide), PAHs (acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(b+k)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorine, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene), and metals (arsenic, cadmium, chromium, lead, nickel, and zinc) were detected in soil and groundwater samples from this boring at concentrations above the reporting limits.

Screening levels were exceeded in the following soil samples:

- Boring 38SB100
  - at 1 foot bgs – benzo(a)pyrene at 64 µg/kg and arsenic at 4.2 µg/kg
  - at 3 feet bgs – arsenic at 4.5 mg/kg.

No exceedances were identified in soil samples collected from this boring at 5, 5.5, and 10 feet bgs.

- Boring 38SB101
  - at 0.5 feet bgs – TPH as diesel at 2,600 mg/kg, TPH as fuel oil at 4,300 mg/kg, benzo(a)pyrene at 180 µg/kg, benzo(b)fluoranthene at 330 µg/kg, benzo(b+k)fluoranthene at 420 µg/kg, lead at 140 mg/kg, and zinc at 85 mg/kg
  - at 3 feet bgs – TPH as fuel oil at 290 mg/kg, lead at 56 mg/kg, and zinc at 49 mg/kg
  - at 5.5 feet bgs – benzo(a)pyrene at 87 µg/kg.

No exceedances were identified in the soil sample collected from this boring at 10 feet bgs.

- Boring 38SB102
  - at 1 feet bgs – TPH as unknown hydrocarbons in the diesel range at 340 mg/kg, TPH as fuel oil at 650 mg/kg, anthracene at 1,000 µg/kg, benzo(a)anthracene at 550 µg/kg, benzo(a)pyrene at 380 µg/kg, benzo(b)fluoranthene at 1,200 µg/kg, benzo(b+k)fluoranthene at 1,600 µg/kg, benzo(k)fluoranthene at 400 µg/kg, chrysene at 1,100 µg/kg, fluoranthene at 3,100 µg/kg, pyrene at 2,900 µg/kg, phenanthrene at 1,400 µg/kg, lead at 120 mg/kg, and zinc at 83 mg/kg
  - at 3.5 feet bgs – benzo(a)pyrene at 28 µg/kg and arsenic at 11 mg/kg
  - at 5.5 feet bgs – TPH as unknown hydrocarbons in the diesel range at 140 mg/kg, TPH as fuel oil at 1,300 mg/kg, benzo(a)pyrene at 150 µg/kg, and arsenic at 6.6 mg/kg
  - at 10 feet bgs – chromium at 98 mg/kg, nickel at 100 mg/kg, and zinc at 56 mg/kg.
- Boring 38SB103
  - at 1.5 feet bgs – TPH as fuel oil at 650 mg/kg
  - at 10 feet bgs – arsenic at 7.5 mg/kg and zinc at 45 mg/kg.



No exceedances were observed in the samples collected from this boring at 5 and 7.5 feet bgs.

Screening levels were exceeded in the following groundwater samples:

- 38SB100 at 10.5 feet bgs –benzo(a)anthracene at 0.045 µg/L and vinyl chloride at 1.5 µg/L
- 38SB101 at 10.5 feet bgs –benzo(a)anthracene at 0.31 µg/L, benzo(a)pyrene at 0.41 µg/L, benzo(b)fluoranthene at 0.47 µg/L, benzo(b+k)fluoranthene at 0.61 µg/L, benzo(k)fluoranthene at 0.15 µg/L, chrysene at 0.38 µg/L, and indeno(1,2,3-cd)pyrene at 0.15 µg/L
- 38SB102 at 12 feet bgs – benzo(a)anthracene at 0.071 µg/L, benzo(a)pyrene at 0.069 µg/L, benzo(b)fluoranthene at 0.11 µg/L, benzo(b+k)fluoranthene at 0.14 µg/L, chrysene at 0.079 µg/L, arsenic at 24 µg/L, and nickel at 8.4 µg/L
- 38SB103 at 12 feet bgs – benzo(a)anthracene at 0.20 µg/L, benzo(a)pyrene at 0.30 µg/L, benzo(b)fluoranthene at 0.051 µg/L, benzo(b+k)fluoranthene at 0.051 µg/L, benzo(k)fluoranthene at 0.11 µg/L, chrysene at 0.31 µg/L, indeno(1,2,3-cd)pyrene at 0.13 µg/L, and nickel at 7.4 µg/L.

The goals of DQO 15 have been met because the presence of potential contaminants related to past use of former Building 38, 38-A, and garage have been assessed and the desired additional data have been collected in support of the CAP. Soil with petroleum hydrocarbon concentrations that exceed screening levels may extend west and east from the former Building 38 Garage area. The probable soil remedial method for this area is likely to be shallow soil excavation. When the soil excavation is performed, soil confirmation samples will be collected along all sides of the excavation. If the soil analytical results exceed screening levels, then the excavation will be extended as far as needed, depending on access considerations. In addition, the remedial option will also take into account the future plans for the Tennessee Hollow Riparian Corridor and the possible expansion of the Crissy Marsh.

### 5.3.10 Former USTs 207.1, 207.2, and 207.3

This area was investigated to address the following DQO:

- DQO 16: The extent of MTBE above screening levels in groundwater in the area of former USTs 207.1 through 207.4 has not been adequately characterized.

Borings 207HP100 through 207HP103 (groundwater samples only), and 207SB104 and 207SB105 (soil and groundwater samples) were drilled in the former Building 207 gasoline service station area to further evaluate the extent of TPH as gasoline, lead, and MTBE in soil or groundwater at concentrations above screening levels. TPH (gasoline, diesel, and fuel oil range), VOCs (2-butanone, 2-hexanone, acetone, benzene, ethylbenzene, MTBE, toluene, and xylenes), and lead were detected in soil and groundwater samples from these borings at concentrations above the reporting limits.

No screening levels were exceeded for soil samples from Boring 207SB104. Screening levels were exceeded in the following soil sample from Boring 207SB105:

- 207SB105 at 3.5 foot bgs – TPH as unknown hydrocarbons in the gasoline range at 20,000 µg/kg, TPH as unknown hydrocarbons in the diesel range at 240 mg/kg, TPH as fuel oil at 530 mg/kg benzene at 60 µg/kg, and lead at 320 mg/kg.

No groundwater screening levels were exceeded for groundwater samples from Boring 207HP102. Screening levels were exceeded in the following groundwater samples:



- 207HP100 at 12 feet bgs – TPH as unknown hydrocarbons in the diesel range at 0.56 mg/L and MTBE at 1,400 µg/L
- 207HP101 at 12 feet bgs – TPH as unknown hydrocarbons in the diesel range at 0.96 mg/L
- 207HP103 at 10 feet - MTBE at 37 µg/L
- 207SB104 at 12 feet bgs – MTBE at 44 µg/L.
- 207SB105 at 16 feet - TPH as gasoline at 2,100 µg/L and benzene at 3.4 µg/L.

The goals of DQO 16 have been met because the extent of TPH and MTBE has been further characterized and the desired additional data has been collected in support of the CAP.



## 6.0 SUMMARY

The purpose of this investigation was to collect additional data necessary to further characterize the nature and extent of soil and groundwater contamination such that a CAP can be prepared for the Site. The field investigation program was designed to further characterize the extent of selected chemicals in soil and groundwater in specific areas of the Site and to investigate potential source areas at the Site. In the Work Plan, eighteen DQOs were identified for this investigation and all but one of the DQOs were met by this investigation. The DQO that was not met (DQO 2) was to evaluate if a fuel oil tank was still present beneath the building slab where the FDS Pipeline entered Building 228. Because a large metal boiler was present near the location where the FDS pipeline entered the building, the use of geophysical methods to search for a potential UST beneath the building slab was not feasible. In the CAP, further evaluation methods will be assessed to address this DQO.

Results of the investigation resulted in six newly identified areas of vadose zone soil contamination as described below (Plate 2):

- Sump 208 – soil contains TPH, PAHs, and metals above screening levels
- Garage south of Former Building 38 – soil contains TPH, PAHs, and metals above screening levels
- Stained area west of Building 230 – soil contains TPH above screening levels
- Loading dock east of Building 230 – soil contains TPH above screening levels
- Building 271 – soil contains PAHs and metals above screening levels
- Building 38 – soil contains metals and PAHs above screening levels.

In addition, the previously-identified area of TPH contamination in the vicinity of the former Building 231 USTs was expanded northeast, west, and south of the former USTs.

Investigation findings also further characterized the extent of contaminated groundwater in two areas: (1) in the vicinity of and downgradient of Building 231 hoists and USTs, and (2) downgradient of Building 207 pump islands and USTs. Plate 3 illustrates the extent of identified petroleum hydrocarbon contamination in groundwater. The following describes cleanup level exceedances observed in the samples collected in the Building 231 and Building 207 areas during this investigation.

- Building 231 Area - groundwater contains TPH as diesel, TPH as fuel oil, TPH as gasoline, VOCs, PAHs and nickel above cleanup levels.
- Building 207 Area – groundwater contains TPH as diesel, gasoline, benzene, and MTBE above cleanup levels.

PAHs and nickel were detected above screening levels in groundwater samples collected at various locations throughout the Site, including Building 231, Building 38, Garage south of Building 38, Sump 208, and Building 207. The PAHs may be present from various sources including past use of these buildings. The extent of PAHs above screening levels is not fully characterized. It should be noted that groundwater data were collected from borings and not wells constructed with filter pack. It is possible that the PAH groundwater results may be biased high because the results were for turbid water samples that including entrained sediment that contains PAHs.



Although the areal extent of contaminated soil is not fully characterized at all locations and the areal extent of PAHs in groundwater has not been fully assessed, it appears that adequate data have been collected to evaluate and select remedial alternatives as part of the CAP. The need and scope of further characterization, to include additional sampling prior to and during remediation activities, will be addressed in the CAP. Although the CAP has not been prepared, the currently available information suggests that excavation of soil will be the more likely remedial option, given the relatively small area of exceedances and the constraints of surrounding structures and underground utilities. The needed additional characterization can be economically accomplished through the collection and analysis of confirmation samples as the excavation proceeds. In addition, the remedial options to be developed in the CAP will take into account future plans for the Tennessee Hollow Riparian Corridor and the possible expansion of the Crissy Marsh. Specific details of the corridor and marsh plans are not yet available, but will be better known at the time of the CAP preparation. Therefore, characterization and remedial actions for certain areas are better handled within the CAP.

The areas that would benefit from additional characterization within the CAP are summarized below:

- Former USTs 231.4 through 231.7 – Soil with petroleum hydrocarbon concentrations that exceed screening levels extends into the area beneath the Doyle Drive/Highway 101 overpass but does not appear to extend beyond the overpass to the Sump 208 area. The presence of the overpasses prevents further effective soil characterization and limits remedial options. However, CalTrans is planning to replace the overpasses and will be excavating this area at a currently-unspecified time in the future. When the overpasses are removed, the characterization of soil conditions beneath the overpasses can be completed and remediation implemented, as needed.
- Historically Visibly Stained Area West of Building 230 – Soil with petroleum hydrocarbon concentrations that exceed screening levels may extend north into the Gorgas Avenue area. The probable soil remedial method for this area is likely to be shallow soil excavation. When the soil excavation is performed, soil confirmation samples will be collected along all sides of the excavation. If the soil analytical results exceed screening levels, then the excavation will be extended as far as needed, depending on access considerations.
- Former Railroad Spur Adjacent to Building 230 – Soil with petroleum hydrocarbon concentrations that exceed screening levels may extend north and south along the former railroad track area beyond the former loading dock area. The probable soil remedial method for this area is likely to be shallow soil excavation. When the soil excavation is performed, soil confirmation samples will be collected along all sides of the excavation. If the soil analytical results exceed screening levels, then the excavation will be extended as far as needed, depending on access considerations.
- Former Oil Station at Building 38 – Soil with petroleum hydrocarbon concentrations that exceed screening levels may extend west and east from the former Building 38 Garage area. The probable soil remedial method for this area is likely to be shallow soil excavation. When the soil excavation is performed, soil confirmation samples will be collected along all sides of the excavation. If the soil analytical results exceed screening levels, then the excavation will be extended as far as needed, depending on access considerations. In addition, the remedial option will also take into account the future plans for the Tennessee Hollow Riparian Corridor and the possible expansion of the Crissy Marsh.



## 7.0 REFERENCES

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## TABLES



**Table 1. Sampling Analytical Program  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California**

Area	Soil Boring	Northing	Easting	Matrix	Sample Number	Sample Depth Interval (feet)	Sample Type	Date Collected	Test Method	VOCs	BTEX	TPHg	TPHd, TPHfo	PAHs	PCBs	Lead, Nickel, Zinc	Arsenic, Cadmium, Chromium	
									Soil Containers	1 Liner								
									Aqueous Containers	3 x 40 mL	3 x 40 mL	2 x 1L G	2 x 1L G	NA	1L G	1L G		
Former Building 38	38SB100	480754.1373	1436088.6894	soil	38SB100(1)	1	Primary	4/7/2004		X		X		X		X	X	
				soil	38SB100(1)	1	Primary	5/12/2004*					X					
				soil	38SB100(3)	3	Primary	4/7/2004			X		X		X		X	
				soil	38SB100(3)	3	Primary	5/12/2004*					X					
				soil	38SB100(5)	5	Primary	4/7/2004			X		X		X		X	
				soil	38SB100(5.5)	5.5	Primary	5/12/2004*					X					
				soil	38SB100(10)	10	Primary	4/7/2004			X		X		X		X	
				soil	38SB100(10)	10	Primary	5/12/2004*					X					
				gw	38SB100(10.5)	10.5	Primary	4/7/2004			X		X	X	X		X	X
	38SB101	480727.6903	1436029.5562	soil	38SB101(0.5)	0.5	Primary	4/7/2004		X		X		X		X	X	
				soil	38SB101(0.5)	0.5	Primary	5/12/2004*					X					
				soil	38SB101(3)	3	Primary	4/7/2004			X		X		X		X	
				soil	38SB101(3)	3	Primary	5/12/2004*					X					
				soil	38SB101(5.5)	5.5	Primary	4/7/2004			X		X		X		X	
				soil	38SB101(5.5)	5.5	Primary	5/12/2004*					X					
				soil	38SB101(10)	10	Primary	4/7/2004			X		X		X		X	
				soil	38SB101(10)	10	Primary	5/12/2004*					X					
	38SB102	480697.1893	1436046.5079	soil	38SB102(1)	1	Primary	4/6/2004		X		X	X	X		X	X	
				soil	38SB102(3.5)	3.5	Primary	4/6/2004			X		X	X	X		X	X
				soil	38SB102(5.5)	5.5	Primary	4/6/2004			X		X	X	X		X	X
				soil	38SB102(10)	10	Primary	4/6/2004			X		X		X		X	X
				soil	38SB102(10)	10	Primary	5/12/2004*					X					
	38SB103	480660.0208	1436082.1690	gw	38SB102(12)	12	Primary	4/7/2004		X		X	X	X		X	X	
				soil	38SB103(1.5)	1.5	Primary	4/6/2004			X		X	X	X		X	X
				soil	38SB103(5)	5	Primary	4/6/2004			X		X	X	X		X	X
				soil	38SB103(7.5)	7.5	Primary	4/6/2004			X		X	X	X		X	X
				soil	38SB103(10)	10	Primary	4/6/2004			X		X		X		X	X
				soil	38SB103(10)	10	Primary	5/12/2004*						X				
				gw	38SB103(12)	12	Primary	4/6/2004			X		X	X	X		X	X
				DUP(040406)	12	Duplicate	4/6/2004		X		X	X	X		X	X		



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Area	Soil Boring	Northing	Easting	Matrix	Sample Number	Sample Depth Interval (feet)	Sample Type	Date Collected	Test Method	VOCs	BTEX	TPHg	TPHd, TPHfo	PAHs	PCBs	Lead, Nickel, Zinc	Arsenic, Cadmium, Chromium
									Soil Containers	1 Liner							
									Aqueous Containers	3 x 40 mL	3 x 40 mL	2 x 1L G	2 x 1L G	NA	1L G	1L G	
Former Building 207	207HP100	480750.7489	1435718.1424	gw	207HP100(12)	12	Primary	4/8/2004		X		X	X			lead	
	207HP101	480763.5419	1435838.2474	gw	207HP101(12)	12	Primary	4/8/2004		X		X	X			lead	
	207HP102	480800.8205	1435821.3631	gw	207HP102(12)	12	Primary	4/7/2004		X		X	X			lead	
	207HP103	480779.6443	1435675.6087	gw	207HP103(10)	10	Primary	4/7/2004		X		X	X			lead	
	207SB104	480743.8457	1435801.4441	soil	207SB104(3)	3	Primary	4/8/2004		X		X	X			lead	
				gw	207HP104(12)	12	Primary	4/8/2004		X		X	X			lead	
207SB105	480672.1545	1435790.9421	soil	207SB105(3.5)	3.5	Primary	4/8/2004		X		X	X			lead		
			gw	207HP105(16)	16	Primary	4/8/2004		X		X	X			lead		
Former Building 208	208SB100	480599.8819	1435818.3052	soil	208SB100(6)	6	Primary	4/7/2004					X	X		X	X
				soil	208SB100(7.5)	7.5	Primary	4/7/2004					X	X		X	X
				soil	208SB100(10)	10	Primary	4/7/2004					X	X		X	X
				gw	208SB100(12)	12	Primary	4/8/2004					X	X		X	X
Building 228	228SB100	480176.9240	1435741.9318	soil	228SB100(4)	4	Primary	4/7/2004						X			
	228SB101	480257.5885	1435750.6641	soil	228SB101(4.5)	4.5	Primary	4/6/2004		X		X	X			X	X
				soil	228SB101(11)	11	Primary	4/6/2004		X		X	X			X	X
				gw	228SB101(12)	12	Primary	4/6/2004		X		X	X			X	X
228SB102	480255.3919	1435762.1474	soil	228SB102(4)	7.5	Primary	4/6/2004		X		X	X			X	X	
			gw	228SB102(16)	16	Primary	4/6/2004		X		X	X			X	X	
Building 230	230SB100	480281.0073	1436035.3423	soil	230SB100(3)	3	Primary	4/7/2004					X	X		lead	
				soil	230SB100(5.5)	5.5	Primary	4/7/2004					X	X		lead	
				soil	230SB100(7.5)	7.5	Primary	4/7/2004					X	X		lead	
				soil	230SB100(10)	10	Primary	4/7/2004					X	X		lead	
	230SB101	480352.0413	1436078.7655	soil	230SB101(3)	3	Primary	4/7/2004					X	X		lead	
				soil	230SB101(5.5)	5.5	Primary	4/7/2004					X	X		lead	
				soil	230SB101(7.5)	7.5	Primary	4/7/2004					X	X		lead	
				soil	230SB101(10)	10	Primary	4/7/2004					X	X		lead	
Building 231	231SB100	480285.0966	1435714.4988	soil	231SB100(3)	3	Primary	4/5/2004			X	X	X				
				soil	231SB100(5.5)	5.5	Primary	4/5/2004			X	X	X				
				soil	231SB100(7.5)	7.5	Primary	4/5/2004			X	X	X				
				soil	231SB100(9.5)	9.5	Primary	4/5/2004			X	X	X				
				gw	231SB100(10)	10	Primary	4/5/2004			X	X	X				



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Area	Soil Boring	Northing	Easting	Matrix	Sample Number	Sample Depth Interval (feet)	Sample Type	Date Collected	Test Method	VOCs	BTEX	TPHg	TPHd, TPHfo	PAHs	PCBs	Lead, Nickel, Zinc	Arsenic, Cadmium, Chromium
									Soil Containers	1 Liner							
									Aqueous Containers	3 x 40 mL	3 x 40 mL	2 x 1L G	2 x 1L G	NA	1L G	1L G	
	231SB101	480307.4821	1435725.0113	soil	231SB101(3)	3	Primary	4/5/2004			X	X	X				
				soil	231SB101(5.5)	5.5	Primary	4/5/2004			X	X	X				
				soil	231SB101(7.5)	7.5	Primary	4/5/2004			X	X	X				
				soil	231SB101(10)	10	Primary	4/5/2004			X	X	X				
				gw	231SB101(10.5)	10.5	Primary	4/5/2004			X	X	X				
	231SB102	480328.9231	1435753.7404	soil	231SB102(3)	3	Primary	4/5/2004		X		X	X			X	X
				soil	231SB102(5)	5	Primary	4/5/2004		X		X	X			X	X
				soil	231SB102(7)	7	Primary	4/5/2004		X		X	X			X	X
				soil	231SB102(10)	10	Primary	4/5/2004		X		X	X			X	X
				gw	231SB102(11)	11	Primary	4/5/2004		X		X	X			X	X
	231SB103	480316.7407	1435797.7156	soil	231SB103(3)	3	Primary	4/5/2004		X		X	X	X		X	X
				soil	231SB103(5)	5	Primary	4/5/2004		X		X	X	X		X	X
				soil	231SB103(7)	7	Primary	4/5/2004		X		X	X	X		X	X
				soil	231SB103(10)	10	Primary	4/5/2004		X		X	X	X		X	X
				gw	231SB103(10.5)	10.5	Primary	4/5/2004		X		X	X	X		X	X
	231SB104	480327.8139	1435843.4772	soil	231SB104(3)	3	Primary	4/7/2004		X		X		X	X	X	
				soil	231SB104(3)	3	Primary	5/12/2004*					X				
				soil	231SB104(5)	5	Primary	4/7/2004		X		X		X	X	X	
				soil	231SB104(5)	5	Primary	5/12/2004*					X				
				soil	231SB104(7)	7	Primary	4/7/2004		X		X		X	X	X	
				soil	231SB104(7)	7	Primary	5/12/2004*					X				
				soil	231SB104(10)	10	Primary	4/7/2004		X		X		X	X	X	
				soil	231SB104(11)	11	Primary	5/12/2004*					X				
				gw	231SB104(12)	12	Primary	4/7/2004		X		X	X	X	X	X	
				gw	DUP(040704)	12	Duplicate	4/7/2004		X		X	X	X	X	X	



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Area	Soil Boring	Northing	Easting	Matrix	Sample Number	Sample Depth Interval (feet)	Sample Type	Date Collected	Test Method	VOCs	BTEX	TPHg	TPHd, TPHfo	PAHs	PCBs	Lead, Nickel, Zinc	Arsenic, Cadmium, Chromium
									Soil Containers	1 Liner							
									Aqueous Containers	3 x 40 mL	3 x 40 mL	2 x 1L G	2 x 1L G	NA	1L G	1L G	
	231SB105	480293.2300	1435887.7889	soil	231SB105(3)	3	Primary	4/7/2004		X		X		X	X	X	
				soil	231SB105(3)	3	Primary	5/12/2004*					X				
				soil	231SB105(5.5)	5.5	Primary	4/7/2004			X		X		X	X	
				soil	231SB105(5.5)	5.5	Primary	5/12/2004*					X				
				soil	231SB105(7)	7	Primary	4/7/2004			X		X		X	X	
				soil	231SB105(7)	7	Primary	5/12/2004*					X				
				soil	231SB105(10)	10	Primary	4/7/2004			X		X		X	X	
				soil	231SB105(11)	11	Primary	5/12/2004*					X				
				gw	231SB105(12)	12	Primary	4/7/2004			X		X	X	X	X	
	231SB106	480344.6622	1435944.7140	soil	231SB106(3)	3	Primary	4/8/2004			X	X	X				
				soil	231SB106(5)	5	Primary	4/8/2004			X	X	X				
				soil	231SB106(7)	7	Primary	4/8/2004			X	X	X				
				soil	231SB106(10)	10	Primary	4/8/2004			X	X	X				
				gw	231SB106(10.5)	10.5	Primary	4/8/2004			X	X	X				
	231SB107	480424.6274	1435966.7722	soil	231SB107(1)	1	Primary	4/5/2004			X	X	X				
	231SB108	480374.5163	1435768.3275	soil	231SB108(3)	3	Primary	4/5/2004			X	X	X				
				soil	231SB108(5)	5	Primary	4/5/2004			X	X	X				
				soil	231SB108(7)	7	Primary	4/5/2004			X	X	X				
				soil	231SB108(10)	10	Primary	4/5/2004			X	X	X				
				gw	231SB108(14.5)	14.5	Primary	4/5/2004			X	X	X				
	231SB109	480376.1423	1435727.1722	soil	231SB109(3)	3	Primary	4/5/2004			X	X	X				
				soil	231SB109(5)	5	Primary	4/5/2004			X	X	X				
				soil	231SB109(7)	7	Primary	4/5/2004			X	X	X				
				soil	231SB109(10)	10	Primary	4/5/2004			X	X	X				
				gw	231SB109(10.5)	10.5	Primary	4/6/2004			X	X	X				
	231SB110	480443.5980	1435711.4515	soil	231SB110(3)	3	Primary	4/8/2004			X	X	X				
				soil	231SB110(5)	5	Primary	4/8/2004			X	X	X				
				soil	231SB110(7)	7	Primary	4/8/2004			X	X	X				
				soil	231SB110(10)	10	Primary	4/8/2004			X	X	X				
				gw	231SB110(12)	12	Primary	4/8/2004			X	X	X				



**Table 1. Sampling Analytical Program  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California**

Area	Soil Boring	Northing	Easting	Matrix	Sample Number	Sample Depth Interval (feet)	Sample Type	Date Collected	Test Method	VOC's	BTEX	TPHg	TPHd, TPHfo	PAHs	PCBs	Lead, Nickel, Zinc	Arsenic, Cadmium, Chromium						
									Soil Containers	1 Liner													
									Aqueous Containers	3 x 40 mL	3 x 40 mL	2 x 1L G	2 x 1L G	NA	1L G	1L G							
	231SB111	480483.2515	1435803.1669	soil	231SB111(2.5)	2.5	Primary	4/6/2004			X	X	X										
				soil	231SB111(5)	5	Primary	4/6/2004			X	X	X										
				soil	231SB111(7)	7	Primary	4/6/2004			X	X	X										
				soil	231SB111(10)	10	Primary	4/6/2004			X	X	X										
				gw	231SB111(16)	16	Primary	4/6/2004			X	X	X										
	231SB112	480492.4310	1435837.0158	soil	231SB112(3)	3	Primary	4/5/2004			X	X	X										
				soil	231SB112(5.5)	5.5	Primary	4/5/2004			X	X	X										
				soil	231SB112(7.5)	7.5	Primary	4/5/2004			X	X	X										
				soil	231SB112(10)	10	Primary	4/5/2004			X	X	X										
				gw	231SB112(10.5)	10.5	Primary	4/5/2004			X	X	X										
	231SB113	480489.2623	1435873.9423	soil	231SB113(3)	3	Primary	4/6/2004			X	X	X										
				soil	231SB113(5.5)	5.5	Primary	4/6/2004			X	X	X										
				soil	231SB113(7.5)	7.5	Primary	4/6/2004			X	X	X										
				soil	231SB113(10)	10	Primary	4/6/2004			X	X	X										
				gw	231SB113(15)	15	Primary	4/6/2004			X	X	X										
	231SB114	480434.6791	1435886.0310	soil	231SB114(3)	3	Primary	4/7/2004			X	X	X										
				soil	231SB114(3)	3	Primary	5/12/2004*			X	X											
				soil	231SB114(5)	5	Primary	4/7/2004															
				soil	231SB114(5)	5	Primary	5/12/2004*										X	X	X			
				soil	231SB114(7)	7	Primary	4/7/2004															
				soil	231SB114(10)	10	Primary	4/7/2004													X	X	X
				gw	231SB114(16)	16	Primary	4/7/2004															
	231SB115	480412.4590	1435877.0427	soil	231SB115(3)	3	Primary	4/8/2004			X	X	X										
				soil	231SB115(5.5)	5.5	Primary	4/8/2004			X	X	X										
				soil	231SB115(7.5)	7.5	Primary	4/8/2004			X	X	X										
				soil	231SB115(10)	10	Primary	4/8/2004			X	X	X										
				gw	231SB115(16)	16	Primary	4/8/2004			X	X	X										
				gw	DUP(040804)	16	Duplicate	4/8/2004			X	X	X										



**Table 1. Sampling Analytical Program  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California**

Area	Soil Boring	Northing	Easting	Matrix	Sample Number	Sample Depth Interval (feet)	Sample Type	Date Collected	Test Method	VOCs	BTEX	TPHg	TPHd, TPHfo	PAHs	PCBs	Lead, Nickel, Zinc	Arsenic, Cadmium, Chromium
									Soil Containers	1 Liner							
									Aqueous Containers	3 x 40 mL	3 x 40 mL	2 x 1L G	2 x 1L G	NA	1L G	1L G	
	231SB116	480322.6318	1435777.0425	soil	231SB116(3)	3	Primary	4/5/2004		X		X	X			X	X
				soil	231SB116(5)	5	Primary	4/5/2004		X		X	X			X	
				soil	231SB116(7)	7	Primary	4/5/2004		X		X	X			X	
				soil	231SB116(10)	10	Primary	4/5/2004		X		X	X			X	
				gw	231SB116(10.5)	10.5	Primary	4/5/2004		X		X	X			X	
Former Building 271	271SB100	480576.1657	1435710.2821	soil	271SB100(2)	2	Primary	4/8/2004		X		X	X	X		X	X
				soil	271SB100(3.5)	3.5	Primary	4/8/2004		X		X	X	X			
				soil	271SB100(5)	5	Primary	4/8/2004		X		X	X	X			
				soil	271SB100(7)	7	Primary	4/8/2004		X		X	X	X			
				soil	271SB100(9.5)	9.5	Primary	4/8/2004		X		X	X	X			
				gw	271SB100(10.5)	10.5	Primary	4/8/2004		X		X	X	X			
QC Samples	Rinsate Blank	NA	NA	water	231SB103(RB)		QC	4/5/2004		X		X	X	X		X	X
	Rinsate Blank	NA	NA	water	38SB103(RB)		QC	4/6/2004		X		X	X	X			
	Rinsate Blank	NA	NA	water	38SB100(RB)		QC	4/7/2004		X		X	X	X			
	Blank	NA	NA	water	SourceWaterBlank		QC	4/8/2004		X		X	X	X			
	Trip Blank	NA	NA	water	231SB108(TB)		QC	4/5/2004		X							
	Trip Blank	NA	NA	water	38SB103(TB)		QC	4/6/2004		X							
	Trip Blank	NA	NA	water	38SB100(TB)		QC	4/7/2004		X							
	Trip Blank	NA	NA	water	207HP100(TB)		QC	4/8/2004		X							

Notes

VOCs	Volatile organic compounds.	gw	Groundwater.
BTEX	Benzene, toluene, ethylbenzene, xylenes.	g	gasoline.
TPH	Total petroleum hydrocarbons	d	diesel.
PAHs	Polynuclear aromatic hydrocarbons.	fo	Fuel oil; waste oil considered to be the same range as fuel oil.
*	TPHd & TPHfo resampled on 5/12/04 due to laboratory holding time exceedences.	NA	Not applicable.

Checked: \_\_\_\_\_

Approved: \_\_\_\_\_



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207SB104		207SB105		208SB100	
			Sample Date:		04/08/04		04/08/04		04/07/04	
			Sample Depth (feet):		3		3.5		10	
			Sample Number:		207SB104(3)		207SB105(3.5)		208SB100(10)	
			Lab Batch:		P404268		P404268		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/kg	115	ND ( 5 . 4 )	/U	ND ( 61 )	/U	ND ( 5 . 9 )	/U
TPH Fuel Oil (C24-C36)			mg/kg	144	11.		530.		6.9	/J
TPH Gasoline (C7-C12)			µg/kg	11600	ND ( 1100 )	U/J	ND ( 6100 )	/U	NT	
TPH Unknown Diesel Hydrocarbon			mg/kg	115	ND ( 5 . 4 )	U/J	240.		ND ( 5 . 9 )	U/J
TPH Unknown Gasoline Hydrocarbon			µg/kg	11600	ND ( 1100 )	/U	20,000.		NT	
8021										
Benzene			µg/kg	5	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (total)			µg/kg	5700	NT		NT		NT	
8082										
Aroclor 1016			µg/kg	33	NT		NT		NT	
8260										
2-Butanone			µg/kg	3800	11.		52.	/J	NT	
2-Hexanone			µg/kg	--	ND ( 11 )	/U	160.		NT	
Acetone			µg/kg	240	81.		170.	/J	NT	
Benzene			µg/kg	5	ND ( 2 . 2 )	/U	60.		NT	
Carbon disulfide			µg/kg	200000	ND ( 11 )	J - /U	ND ( 61 )	J - /U	NT	
Ethylbenzene			µg/kg	5000	ND ( 5 . 4 )	/U	70.		NT	
Methylene chloride			µg/kg	76	ND ( 5 . 4 )	/U	ND ( 30 )	/U	NT	
Methyl-tert-butyl ether			µg/kg	23	2.9	/J	19.	/J	NT	
Toluene			µg/kg	1000	ND ( 5 . 4 )	U/J	15.	/J	NT	
Xylenes (m&p-)			µg/kg	5700	ND ( 5 . 4 )	/U	68.		NT	
Xylenes (o-)			µg/kg	5700	ND ( 5 . 4 )	/U	15.	/J	NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		207SB104	207SB105	208SB100		
		Sample Date:		04/08/04	04/08/04	04/07/04		
		Sample Depth (feet):		3	3.5	10		
		Sample Number:		207SB104(3)	207SB105(3.5)	208SB100(10)		
		Lab Batch:		P404268	P404268	P404235		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		ND ( 7.8 )	/U
Acenaphthylene	µg/kg	67	NT		NT		ND ( 7.8 )	/U
Anthracene	µg/kg	450	NT		NT		ND ( 7.8 )	/U
Benzo(a)anthracene	µg/kg	270	NT		NT		ND ( 7.8 )	/U
Benzo(a)pyrene	µg/kg	27	NT		NT		ND ( 7.8 )	/U
Benzo(b)fluoranthene	µg/kg	270	NT		NT		1.9	/J
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		1.9	/J
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		ND ( 7.8 )	/U
Benzo(k)fluoranthene	µg/kg	270	NT		NT		ND ( 7.8 )	/U
Chrysene	µg/kg	670	NT		NT		ND ( 7.8 )	/U
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		ND ( 7.8 )	/U
Fluoranthene	µg/kg	1500	NT		NT		ND ( 7.8 )	/U
Fluorene	µg/kg	280	NT		NT		ND ( 7.8 )	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		ND ( 7.8 )	/U
Naphthalene	µg/kg	300	NT		NT		ND ( 7.8 )	/U
Phenanthrene	µg/kg	610	NT		NT		ND ( 7.8 )	/U
Pyrene	µg/kg	790	NT		NT		ND ( 7.8 )	/U
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207SB104		207SB105		208SB100	
			Sample Date:		04/08/04		04/08/04		04/07/04	
			Sample Depth (feet):		3		3.5		10	
			Sample Number:		207SB104(3)		207SB105(3.5)		208SB100(10)	
			Lab Batch:		P404268		P404268		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		208SB100		208SB100		228SB100	
			Sample Date:		04/07/04		04/07/04		04/07/04	
			Sample Depth (feet):		6		7.5		4	
			Sample Number:		208SB100(6)		208SB100(7.5)		228SB100(4)	
			Lab Batch:		P404235		P404235		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/kg	115	89.		ND(5.9) /U		NT	
TPH Fuel Oil (C24-C36)			mg/kg	144	320.		28.		NT	
TPH Gasoline (C7-C12)			µg/kg	11600	NT		NT		NT	
TPH Unknown Diesel Hydrocarbon			mg/kg	115	ND(11) /U		15.		NT	
TPH Unknown Gasoline Hydrocarbon			µg/kg	11600	NT		NT		NT	
8021										
Benzene			µg/kg	5	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (total)			µg/kg	5700	NT		NT		NT	
8082										
Aroclor 1016			µg/kg	33	NT		NT		NT	
8260										
2-Butanone			µg/kg	3800	NT		NT		NT	
2-Hexanone			µg/kg	--	NT		NT		NT	
Acetone			µg/kg	240	NT		NT		NT	
Benzene			µg/kg	5	NT		NT		NT	
Carbon disulfide			µg/kg	200000	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Methylene chloride			µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether			µg/kg	23	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)			µg/kg	5700	NT		NT		NT	
Xylenes (o-)			µg/kg	5700	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		208SB100	208SB100	228SB100		
		Sample Date:		04/07/04	04/07/04	04/07/04		
		Sample Depth (feet):		6	7.5	4		
		Sample Number:		208SB100(6)	208SB100(7.5)	228SB100(4)		
		Lab Batch:		P404235	P404235	P404235		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	ND (7.5)	/U	ND (7.8)	/U	ND (7.3)	/U
Acenaphthylene	µg/kg	67	2.2	/J	18.		ND (7.3)	/U
Anthracene	µg/kg	450	3.0	/J	16.		3.9	/J
Benzo(a)anthracene	µg/kg	270	14.		94.		25.	
Benzo(a)pyrene	µg/kg	27	20.		100.		26.	
Benzo(b)fluoranthene	µg/kg	270	31.		120.		79.	
Benzo(b+k)fluoranthene, Total	µg/kg	270	37.		160.		99.	
Benzo(g,h,i)perylene	µg/kg	250	21.		37.		31.	
Benzo(k)fluoranthene	µg/kg	270	6.7	/J	42.		20.	
Chrysene	µg/kg	670	22.		94.		36.	
Dibenzo(a,h)anthracene	µg/kg	71	4.8	/J	10.		ND (7.3)	/U
Fluoranthene	µg/kg	1500	17.		130.		26.	
Fluorene	µg/kg	280	2.2	/J	4.6	/J	ND (7.3)	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	10.		36.		21.	
Naphthalene	µg/kg	300	6.1	/J	3.6	/J	5.3	/J
Phenanthrene	µg/kg	610	22.		63.		24.	
Pyrene	µg/kg	790	24.		190.		43.	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		208SB100		208SB100		228SB100	
			Sample Date:		04/07/04		04/07/04		04/07/04	
			Sample Depth (feet):		6		7.5		4	
			Sample Number:		208SB100(6)		208SB100(7.5)		228SB100(4)	
			Lab Batch:		P404235		P404235		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		228SB101	228SB101	228SB102
		Sample Date:		04/06/04	04/06/04	04/06/04
		Sample Depth (feet):		11	4.5	7.5
		Sample Number:		228SB101(11)	228SB101(4.5)	228SB102(7.5)
		Lab Batch:		P404234	P404234	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
8015 Modified						
TPH Diesel (C12-C24)	mg/kg	115	ND(5.9)	/U	ND(11)	U/J
TPH Fuel Oil (C24-C36)	mg/kg	144	67.		24.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200000)	/U	ND(1100)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	90.		ND(11)	U/J
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	4,100,000.		ND(1100)	/U
8021						
Benzene	µg/kg	5	ND(590)	/U	NT	NT
Ethylbenzene	µg/kg	5000	3,700.		NT	NT
Toluene	µg/kg	1000	ND(590)	/U	NT	NT
Xylenes (total)	µg/kg	5700	2,000.		NT	NT
8082						
Aroclor 1016	µg/kg	33	NT		NT	NT
8260						
2-Butanone	µg/kg	3800	NT		ND(11)	/U
2-Hexanone	µg/kg	--	NT		ND(11)	/U
Acetone	µg/kg	240	NT		ND(54)	/U
Benzene	µg/kg	5	NT		ND(2.2)	/U
Carbon disulfide	µg/kg	200000	NT		ND(11)	J-/U
Ethylbenzene	µg/kg	5000	NT		ND(5.4)	/U
Methylene chloride	µg/kg	76	NT		ND(5.4)	/U
Methyl-tert-butyl ether	µg/kg	23	NT		ND(5.4)	/U
Toluene	µg/kg	1000	NT		ND(5.4)	/U
Xylenes (m&p-)	µg/kg	5700	NT		ND(5.4)	/U
Xylenes (o-)	µg/kg	5700	NT		ND(5.4)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 228SB101		228SB101		228SB102	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 11		4.5		7.5	
			Sample Number: 228SB101(11)		228SB101(4.5)		228SB102(7.5)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:	228SB101	228SB101	228SB102
			Sample Date:	04/06/04	04/06/04	04/06/04
			Sample Depth (feet):	11	4.5	7.5
			Sample Number:	228SB101(11)	228SB101(4.5)	228SB102(7.5)
			Lab Batch:	P404234	P404234	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT	
Chrysene	µg/kg	670	NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT	
Fluoranthene	µg/kg	1500	NT		NT	
Fluorene	µg/kg	280	NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT	
Naphthalene	µg/kg	300	NT		NT	
Phenanthrene	µg/kg	610	NT		NT	
Pyrene	µg/kg	790	NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		230SB100	230SB100	230SB100		
		Sample Date:		04/05/04	04/05/04	04/05/04		
		Sample Depth (feet):		3	5.5	7.5		
		Sample Number:		230SB100(3)	230SB100(5.5)	230SB100(7.5)		
		Lab Batch:		P404204	P404204	P404204		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(10)	/U	ND(12)	/U	ND(7.2)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	67.		250.		44.	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		NT		NT	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	13.		36.		8.9	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		NT		NT	
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		230SB100	230SB100	230SB100		
		Sample Date:		04/05/04	04/05/04	04/05/04		
		Sample Depth (feet):		3	5.5	7.5		
		Sample Number:		230SB100(3)	230SB100(5.5)	230SB100(7.5)		
		Lab Batch:		P404204	P404204	P404204		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	6.7	/J	ND (7.7)	/U	ND (9.5)	/U
Acenaphthylene	µg/kg	67	78.		ND (7.7)	/U	ND (9.5)	/U
Anthracene	µg/kg	450	110.		ND (7.7)	/U	ND (9.5)	/U
Benzo(a)anthracene	µg/kg	270	380.		4.2	/J	2.6	/J
Benzo(a)pyrene	µg/kg	27	390.		5.4	/J	ND (9.5)	/U
Benzo(b)fluoranthene	µg/kg	270	530.		11.		3.1	/J
Benzo(b+k)fluoranthene, Total	µg/kg	270	710.		13.	/J	3.1	/J
Benzo(g,h,i)perylene	µg/kg	250	130.		5.0	/J	ND (9.5)	/U
Benzo(k)fluoranthene	µg/kg	270	170.		1.9	/J	ND (9.5)	/U
Chrysene	µg/kg	670	390.		5.2	/J	2.1	/J
Dibenzo(a,h)anthracene	µg/kg	71	ND (13)	/U	ND (7.7)	/U	ND (9.5)	/U
Fluoranthene	µg/kg	1500	600.		5.1	/J	3.0	/J
Fluorene	µg/kg	280	20.		ND (7.7)	/U	ND (9.5)	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	110.		2.5	/J	ND (9.5)	/U
Naphthalene	µg/kg	300	11.	/J	ND (7.7)	/U	ND (9.5)	/U
Phenanthrene	µg/kg	610	300.		2.7	/J	1.9	/J
Pyrene	µg/kg	790	880.		8.6		2.2	/J
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		230SB100		230SB100		230SB100	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		3		5.5		7.5	
			Sample Number:		230SB100(3)		230SB100(5.5)		230SB100(7.5)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		230SB100	230SB101	230SB101
		Sample Date:		04/05/04	04/05/04	04/05/04
		Sample Depth (feet):		9.5	10	3
		Sample Number:		230SB100(9.5)	230SB101(10)	230SB101(3)
		Lab Batch:		P404204	P404204	P404204
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
8015 Modified						
TPH Diesel (C12-C24)	mg/kg	115	ND (7.2)	/U	ND (7.3)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	94.		30.	150.
TPH Gasoline (C7-C12)	µg/kg	11600	NT		NT	NT
TPH Unknown Diesel Hydrocarbon	mg/kg	115	12.		7.7	35.
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		NT	NT
8021						
Benzene	µg/kg	5	NT		NT	NT
Ethylbenzene	µg/kg	5000	NT		NT	NT
Toluene	µg/kg	1000	NT		NT	NT
Xylenes (total)	µg/kg	5700	NT		NT	NT
8082						
Aroclor 1016	µg/kg	33	NT		NT	NT
8260						
2-Butanone	µg/kg	3800	NT		NT	NT
2-Hexanone	µg/kg	--	NT		NT	NT
Acetone	µg/kg	240	NT		NT	NT
Benzene	µg/kg	5	NT		NT	NT
Carbon disulfide	µg/kg	200000	NT		NT	NT
Ethylbenzene	µg/kg	5000	NT		NT	NT
Methylene chloride	µg/kg	76	NT		NT	NT
Methyl-tert-butyl ether	µg/kg	23	NT		NT	NT
Toluene	µg/kg	1000	NT		NT	NT
Xylenes (m&p-)	µg/kg	5700	NT		NT	NT
Xylenes (o-)	µg/kg	5700	NT		NT	NT



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		230SB100		230SB101		230SB101	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		9.5		10		3	
			Sample Number:		230SB100(9.5)		230SB101(10)		230SB101(3)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene	µg/kg	310	ND (9.5)	/U	ND (9.6)	/U			9.1	/J
Acenaphthylene	µg/kg	67	ND (9.5)	/U	ND (9.6)	/U			15.	
Anthracene	µg/kg	450	ND (9.5)	/U	ND (9.6)	/U			53.	
Benzo(a)anthracene	µg/kg	270	ND (9.5)	/U	ND (9.6)	/U			230.	
Benzo(a)pyrene	µg/kg	27	ND (9.5)	/U	ND (9.6)	/U			380.	
Benzo(b)fluoranthene	µg/kg	270	ND (9.5)	/U	3.1	/J			690.	
Benzo(b+k)fluoranthene, Total	µg/kg	270	ND (19)	/U	3.1	/J			860.	
Benzo(g,h,i)perylene	µg/kg	250	ND (9.5)	/U	ND (9.6)	/U			110.	
Benzo(k)fluoranthene	µg/kg	270	ND (9.5)	/U	ND (9.6)	/U			170.	
Chrysene	µg/kg	670	ND (9.5)	/U	2.6	/J			330.	
Dibenzo(a,h)anthracene	µg/kg	71	ND (9.5)	/U	ND (9.6)	/U			ND (15)	/U
Fluoranthene	µg/kg	1500	ND (9.5)	/U	3.8	/J			350.	
Fluorene	µg/kg	280	ND (9.5)	/U	ND (9.6)	/U			11.	/J
Indeno(1,2,3-cd)pyrene	µg/kg	260	ND (9.5)	/U	ND (9.6)	/U			110.	
Naphthalene	µg/kg	300	ND (9.5)	/U	ND (9.6)	/U			6.1	/J
Phenanthrene	µg/kg	610	ND (9.5)	/U	3.4	/J			44.	
Pyrene	µg/kg	790	ND (9.5)	/U	2.5	/J			570.	
8270SIM										
Acenaphthene	µg/kg	310	NT		NT				NT	
Acenaphthylene	µg/kg	67	NT		NT				NT	
Anthracene	µg/kg	450	NT		NT				NT	
Benzo(a)anthracene	µg/kg	270	NT		NT				NT	
Benzo(a)pyrene	µg/kg	27	NT		NT				NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT				NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		230SB100		230SB101		230SB101	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		9.5		10		3	
			Sample Number:		230SB100(9.5)		230SB101(10)		230SB101(3)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 230SB101		230SB101		231SB100	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 5.5		7.5		3	
			Sample Number: 230SB101(5.5)		230SB101(7.5)		231SB100(3)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND (5.8)	/U	ND (6)	/U	18.	J-
TPH Fuel Oil (C24-C36)	mg/kg	144	120.		16.		51.	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		NT		30.	J-/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	20.		ND (6)	U/J	18.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		NT		ND (1200)	/U
8021								
Benzene	µg/kg	5	NT		NT		ND (5.8)	J-/U
Ethylbenzene	µg/kg	5000	NT		NT		0.17	J-/J
Toluene	µg/kg	1000	NT		NT		0.43	J-/J
Xylenes (total)	µg/kg	5700	NT		NT		0.93	J-/J
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 230SB101		230SB101		231SB100	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 5.5		7.5		3	
			Sample Number: 230SB101(5.5)		230SB101(7.5)		231SB100(3)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Acenaphthylene	µg/kg	67	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Anthracene	µg/kg	450	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Benzo(a)anthracene	µg/kg	270	3.7	/J	ND ( 8 )	/U	NT	
Benzo(a)pyrene	µg/kg	27	3.4	/J	ND ( 8 )	/U	NT	
Benzo(b)fluoranthene	µg/kg	270	7.9		ND ( 8 )	/U	NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	9.1	/J	ND ( 16 )	/U	NT	
Benzo(g,h,i)perylene	µg/kg	250	2.9	/J	ND ( 8 )	/U	NT	
Benzo(k)fluoranthene	µg/kg	270	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Chrysene	µg/kg	670	4.6	/J	ND ( 8 )	/U	NT	
Dibenzo(a,h)anthracene	µg/kg	71	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Fluoranthene	µg/kg	1500	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Fluorene	µg/kg	280	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Naphthalene	µg/kg	300	ND ( 7.7 )	/U	ND ( 8 )	/U	NT	
Phenanthrene	µg/kg	610	3.4	/J	ND ( 8 )	/U	NT	
Pyrene	µg/kg	790	4.4	/J	ND ( 8 )	/U	NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		230SB101		230SB101		231SB100	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		5.5		7.5		3	
			Sample Number:		230SB101(5.5)		230SB101(7.5)		231SB100(3)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB100		231SB100		231SB100	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 5.5		7.5		9.5	
			Sample Number: 231SB100(5.5)		231SB100(7.5)		231SB100(9.5)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND (6.1)	/U	ND (5.8)	/U	ND (6)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	18.		6.7	/J	5.1	/J
TPH Gasoline (C7-C12)	µg/kg	11600	ND (1200)	/U	ND (1200)	U/J	ND (1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	15.		ND (5.8)	U/J	ND (6)	U/J
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	4,200.		ND (1200)	/U	ND (1200)	/U
8021								
Benzene	µg/kg	5	0.16	/J	ND (5.8)	/U	ND (6)	/U
Ethylbenzene	µg/kg	5000	17.		ND (5.8)	/U	ND (6)	/U
Toluene	µg/kg	1000	ND (6.1)	U/J	ND (5.8)	U/J	ND (6)	U/J
Xylenes (total)	µg/kg	5700	ND (6.1)	U/J	ND (5.8)	/U	ND (6)	U/J
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB100		231SB100		231SB100	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 5.5		7.5		9.5	
			Sample Number: 231SB100(5.5)		231SB100(7.5)		231SB100(9.5)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB100		231SB100		231SB100	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		5.5		7.5		9.5	
			Sample Number:		231SB100(5.5)		231SB100(7.5)		231SB100(9.5)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB101		231SB101		231SB101	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 10		3		5.5	
			Sample Number: 231SB101(10)		231SB101(3)		231SB101(5.5)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND (6.2)	/U	ND (5.3)	/U	ND (6.1)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	8.9	/J	21.		320.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND (1200)	/U	ND (1100)	/U	84.	J-/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND (6.2)	U/J	ND (8.2)	U	300.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND (1200)	/U	ND (1100)	/U	ND (1200)	J-/U
8021								
Benzene	µg/kg	5	ND (6.2)	/U	ND (5.3)	/U	ND (6.1)	/U
Ethylbenzene	µg/kg	5000	ND (6.2)	/U	ND (5.3)	/U	ND (6.1)	/U
Toluene	µg/kg	1000	ND (6.2)	/U	ND (5.3)	/U	ND (6.1)	/U
Xylenes (total)	µg/kg	5700	ND (6.2)	/U	ND (5.3)	/U	ND (6.1)	/U
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB101		231SB101		231SB101	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 10		3		5.5	
			Sample Number: 231SB101(10)		231SB101(3)		231SB101(5.5)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB101		231SB101		231SB101	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		10		3		5.5	
			Sample Number:		231SB101(10)		231SB101(3)		231SB101(5.5)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB101		231SB102		231SB102	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 7.5		10		3	
			Sample Number: 231SB101(7.5)		231SB102(10)		231SB102(3)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(6.3)	/U	ND(6.2)	/U	ND(6)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	7.3	/J	ND(12)	U/J	130.	
TPH Gasoline (C7-C12)	µg/kg	11600	29.	J-/J	ND(1200)	U/J	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(6.3)	U/J	ND(6.2)	U/J	49.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1300)	J-/U	ND(1200)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	ND(6.3)	J-/U	NT		NT	
Ethylbenzene	µg/kg	5000	ND(6.3)	J-/U	NT		NT	
Toluene	µg/kg	1000	ND(6.3)	J-/U	NT		NT	
Xylenes (total)	µg/kg	5700	ND(6.3)	J-/U	NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		7.3	/J	14.	
2-Hexanone	µg/kg	--	NT		ND(12)	/U	ND(12)	/U
Acetone	µg/kg	240	NT		60.	/J	75.	
Benzene	µg/kg	5	NT		ND(2.5)	/U	ND(2.4)	/U
Carbon disulfide	µg/kg	200000	NT		ND(12)	/U	ND(12)	/U
Ethylbenzene	µg/kg	5000	NT		ND(6.2)	/U	ND(6)	/U
Methylene chloride	µg/kg	76	NT		ND(6.2)	U/J	ND(6)	U/J
Methyl-tert-butyl ether	µg/kg	23	NT		ND(6.2)	/U	ND(6)	/U
Toluene	µg/kg	1000	NT		ND(6.2)	U/J	ND(6)	U/J
Xylenes (m&p-)	µg/kg	5700	NT		ND(6.2)	/U	ND(6)	/U
Xylenes (o-)	µg/kg	5700	NT		ND(6.2)	/U	ND(6)	/U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB101		231SB102		231SB102	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 7.5		10		3	
			Sample Number: 231SB101(7.5)		231SB102(10)		231SB102(3)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB101		231SB102		231SB102	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		7.5		10		3	
			Sample Number:		231SB101(7.5)		231SB102(10)		231SB102(3)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB102		231SB102		231SB103	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 5		7		10	
			Sample Number: 231SB102(5)		231SB102(7)		231SB103(10)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(5.9)	/U	ND(6.2)	/U	ND(6)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	120.		15.		ND(12)	/U
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	ND(1200)	U/J	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	50.		11.		ND(6)	U/J
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1200)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	11.	J+/J	21.		4.6	/J
2-Hexanone	µg/kg	--	ND(12)	/U	ND(12)	/U	ND(12)	/U
Acetone	µg/kg	240	60.	J+	120.		33.	/J
Benzene	µg/kg	5	ND(2.4)	/U	ND(2.5)	/U	ND(2.4)	/U
Carbon disulfide	µg/kg	200000	ND(12)	/U	ND(12)	/U	ND(12)	/U
Ethylbenzene	µg/kg	5000	ND(5.9)	/U	ND(6.2)	/U	ND(6)	/U
Methylene chloride	µg/kg	76	ND(5.9)	/U	ND(6.2)	U/J	ND(6)	U/J
Methyl-tert-butyl ether	µg/kg	23	ND(5.9)	/U	ND(6.2)	/U	ND(6)	/U
Toluene	µg/kg	1000	ND(5.9)	U/J	ND(6.2)	U/J	ND(6)	U/J
Xylenes (m&p-)	µg/kg	5700	ND(5.9)	/U	ND(6.2)	/U	ND(6)	/U
Xylenes (o-)	µg/kg	5700	ND(5.9)	/U	ND(6.2)	/U	ND(6)	/U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB102		231SB102		231SB103	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		5		7		10	
			Sample Number:		231SB102(5)		231SB102(7)		231SB103(10)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene			µg/kg	310	NT		NT		ND ( 8 )	/U
Acenaphthylene			µg/kg	67	NT		NT		ND ( 8 )	/U
Anthracene			µg/kg	450	NT		NT		ND ( 8 )	/U
Benzo(a)anthracene			µg/kg	270	NT		NT		ND ( 8 )	/U
Benzo(a)pyrene			µg/kg	27	NT		NT		ND ( 8 )	/U
Benzo(b)fluoranthene			µg/kg	270	NT		NT		ND ( 8 )	/U
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		ND ( 16 )	/U
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		ND ( 8 )	/U
Benzo(k)fluoranthene			µg/kg	270	NT		NT		ND ( 8 )	/U
Chrysene			µg/kg	670	NT		NT		ND ( 8 )	/U
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		ND ( 8 )	/U
Fluoranthene			µg/kg	1500	NT		NT		ND ( 8 )	/U
Fluorene			µg/kg	280	NT		NT		ND ( 8 )	/U
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		ND ( 8 )	/U
Naphthalene			µg/kg	300	NT		NT		ND ( 8 )	/U
Phenanthrene			µg/kg	610	NT		NT		ND ( 8 )	/U
Pyrene			µg/kg	790	NT		NT		ND ( 8 )	/U
8270SIM										
Acenaphthene			µg/kg	310	NT		NT		NT	
Acenaphthylene			µg/kg	67	NT		NT		NT	
Anthracene			µg/kg	450	NT		NT		NT	
Benzo(a)anthracene			µg/kg	270	NT		NT		NT	
Benzo(a)pyrene			µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene			µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB102		231SB102		231SB103	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		5		7		10	
			Sample Number:		231SB102(5)		231SB102(7)		231SB103(10)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	231SB103	231SB103	231SB103		
		Sample Date:	04/05/04	04/05/04	04/05/04		
		Sample Depth (feet):	3	5	7		
		Sample Number:	231SB103(3)	231SB103(5)	231SB103(7)		
		Lab Batch:	P404204	P404204	P404204		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value Qual
8015 Modified							
TPH Diesel (C12-C24)	mg/kg	115	ND(5.8)	/U	ND(5.9)	/U	<b>430.</b>
TPH Fuel Oil (C24-C36)	mg/kg	144	<b>82.</b>		<b>82.</b>		<b>1,100.</b>
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	ND(1200)	U/J	ND(1200) U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	<b>35.</b>		<b>39.</b>		ND(120) /U
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1200)	/U	ND(1200) /U
8021							
Benzene	µg/kg	5	NT		NT		NT
Ethylbenzene	µg/kg	5000	NT		NT		NT
Toluene	µg/kg	1000	NT		NT		NT
Xylenes (total)	µg/kg	5700	NT		NT		NT
8082							
Aroclor 1016	µg/kg	33	NT		NT		NT
8260							
2-Butanone	µg/kg	3800	<b>5.4</b>	/J	<b>7.8</b>	/J	<b>28.</b>
2-Hexanone	µg/kg	--	ND(12)	/U	ND(12)	/U	ND(12) /U
Acetone	µg/kg	240	<b>42.</b>	/J	<b>71.</b>		ND(61) /U
Benzene	µg/kg	5	ND(2.3)	/U	ND(2.4)	/U	ND(2.5) /U
Carbon disulfide	µg/kg	200000	ND(12)	/U	ND(12)	/U	ND(12) /U
Ethylbenzene	µg/kg	5000	ND(5.8)	/U	ND(5.9)	/U	ND(6.1) /U
Methylene chloride	µg/kg	76	ND(5.8)	/U	ND(5.9)	/U	<b>3.1</b> /J
Methyl-tert-butyl ether	µg/kg	23	ND(5.8)	/U	ND(5.9)	/U	ND(6.1) /U
Toluene	µg/kg	1000	ND(5.8)	U/J	ND(5.9)	U/J	ND(6.1) U/J
Xylenes (m&p-)	µg/kg	5700	ND(5.8)	/U	ND(5.9)	/U	ND(6.1) /U
Xylenes (o-)	µg/kg	5700	ND(5.8)	/U	ND(5.9)	/U	ND(6.1) /U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB103		231SB103		231SB103	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 3		5		7	
			Sample Number: 231SB103(3)		231SB103(5)		231SB103(7)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	ND (7.7)	/U	ND (16)	/U	ND (8.1)	J-/U
Acenaphthylene	µg/kg	67	3.4	/J	16.		ND (8.1)	/U
Anthracene	µg/kg	450	11.		20.		ND (8.1)	/U
Benzo(a)anthracene	µg/kg	270	36.		120.		2.4	/J
Benzo(a)pyrene	µg/kg	27	65.		210.		ND (8.1)	/U
Benzo(b)fluoranthene	µg/kg	270	81.		280.		2.4	/J
Benzo(b+k)fluoranthene, Total	µg/kg	270	100.		370.		2.4	/J
Benzo(g,h,i)perylene	µg/kg	250	42.		96.		ND (8.1)	/U
Benzo(k)fluoranthene	µg/kg	270	23.		82.		ND (8.1)	/U
Chrysene	µg/kg	670	46.		170.		1.8	/J
Dibenzo(a,h)anthracene	µg/kg	71	ND (7.7)	/U	ND (16)	/U	ND (8.1)	/U
Fluoranthene	µg/kg	1500	61.		270.		2.5	/J
Fluorene	µg/kg	280	2.7	/J	6.5	/J	ND (8.1)	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	34.		84.		ND (8.1)	/U
Naphthalene	µg/kg	300	5.9	/J	19.		ND (8.1)	/U
Phenanthrene	µg/kg	610	34.		160.		2.4	/J
Pyrene	µg/kg	790	95.		360.		2.3	/J
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB103		231SB103		231SB103	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		3		5		7	
			Sample Number:		231SB103(3)		231SB103(5)		231SB103(7)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB104		231SB104		231SB104	
			Sample Date:		04/07/04		04/07/04		05/12/04	
			Sample Depth (feet):		10		3		3	
			Sample Number:		231SB104(10)		231SB104(3)		231SB104(3)	
			Lab Batch:		P404235		P404235		P405251	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/kg	115	NT		NT		ND ( 5 . 8 )	/U
TPH Fuel Oil (C24-C36)			mg/kg	144	NT		NT		18 .	
TPH Gasoline (C7-C12)			µg/kg	11600	ND ( 1200 )	U / J	120,000 .		NT	
TPH Unknown Diesel Hydrocarbon			mg/kg	115	NT		NT		6 . 8	
TPH Unknown Gasoline Hydrocarbon			µg/kg	11600	ND ( 1200 )	/U	ND ( 110000 )	/U	NT	
8021										
Benzene			µg/kg	5	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (total)			µg/kg	5700	NT		NT		NT	
8082										
Aroclor 1016			µg/kg	33	ND ( 40 )	J - / U	ND ( 38 )	/U	NT	
8260										
2-Butanone			µg/kg	3800	4 . 7	/ J	ND ( 57 )	/U	NT	
2-Hexanone			µg/kg	--	ND ( 12 )	/U	ND ( 57 )	/U	NT	
Acetone			µg/kg	240	ND ( 60 )	U / J	ND ( 290 )	/U	NT	
Benzene			µg/kg	5	ND ( 2 . 4 )	/U	ND ( 11 )	/U	NT	
Carbon disulfide			µg/kg	200000	ND ( 12 )	J - / U	ND ( 57 )	J - / U	NT	
Ethylbenzene			µg/kg	5000	ND ( 6 )	/U	ND ( 29 )	/U	NT	
Methylene chloride			µg/kg	76	ND ( 6 )	/U	ND ( 29 )	/U	NT	
Methyl-tert-butyl ether			µg/kg	23	ND ( 6 )	/U	ND ( 29 )	/U	NT	
Toluene			µg/kg	1000	ND ( 6 )	U / J	ND ( 29 )	/U	NT	
Xylenes (m&p-)			µg/kg	5700	ND ( 6 )	/U	ND ( 29 )	/U	NT	
Xylenes (o-)			µg/kg	5700	ND ( 6 )	/U	ND ( 29 )	/U	NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB104		231SB104		231SB104	
			Sample Date: 04/07/04		04/07/04		05/12/04	
			Sample Depth (feet): 10		3		3	
			Sample Number: 231SB104(10)		231SB104(3)		231SB104(3)	
			Lab Batch: P404235		P404235		P405251	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	ND ( 7.9 )	/U	ND ( 7.6 )	/U	NT	
Acenaphthylene	µg/kg	67	ND ( 7.9 )	/U	ND ( 7.6 )	/U	NT	
Anthracene	µg/kg	450	ND ( 7.9 )	/U	ND ( 7.6 )	/U	NT	
Benzo(a)anthracene	µg/kg	270	ND ( 7.9 )	/U	ND ( 7.6 )	/U	NT	
Benzo(a)pyrene	µg/kg	27	ND ( 7.9 )	/U	ND ( 7.6 )	/U	NT	
Benzo(b)fluoranthene	µg/kg	270	ND ( 7.9 )	/U	ND ( 7.6 )	/U	NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		231SB104	231SB104	231SB104		
		Sample Date:		04/07/04	04/07/04	05/12/04		
		Sample Depth (feet):		10	3	3		
		Sample Number:		231SB104(10)	231SB104(3)	231SB104(3)		
		Lab Batch:		P404235	P404235	P405251		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)fluoranthene, Total	µg/kg	270	ND(16)	/U	ND(15)	/U	NT	
Benzo(g,h,i)perylene	µg/kg	250	ND(7.9)	/U	ND(7.6)	/U	NT	
Benzo(k)fluoranthene	µg/kg	270	ND(7.9)	/U	ND(7.6)	/U	NT	
Chrysene	µg/kg	670	ND(7.9)	/U	ND(7.6)	/U	NT	
Dibenzo(a,h)anthracene	µg/kg	71	ND(7.9)	/U	ND(7.6)	/U	NT	
Fluoranthene	µg/kg	1500	ND(7.9)	/U	ND(7.6)	/U	NT	
Fluorene	µg/kg	280	ND(7.9)	/U	ND(7.6)	/U	NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	ND(7.9)	/U	ND(7.6)	/U	NT	
Naphthalene	µg/kg	300	ND(7.9)	/U	<b>11.</b>		NT	
Phenanthrene	µg/kg	610	<b>21.</b>		ND(7.6)	/U	NT	
Pyrene	µg/kg	790	ND(7.9)	/U	ND(7.6)	/U	NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		231SB104	231SB104	231SB104
		Sample Date:		04/07/04	05/12/04	04/07/04
		Sample Depth (feet):		5	5	7
		Sample Number:		231SB104(5)	231SB104(5)	231SB104(7)
		Lab Batch:		P404235	P405251	P404235
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
8015 Modified						
TPH Diesel (C12-C24)	mg/kg	115	NT		ND(170) /U	NT
TPH Fuel Oil (C24-C36)	mg/kg	144	NT		470.	NT
TPH Gasoline (C7-C12)	µg/kg	11600	68,000.		NT	ND(1200) U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	NT		110. /J	NT
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(5900) /U		NT	ND(1200) /U
8021						
Benzene	µg/kg	5	NT		NT	NT
Ethylbenzene	µg/kg	5000	NT		NT	NT
Toluene	µg/kg	1000	NT		NT	NT
Xylenes (total)	µg/kg	5700	NT		NT	NT
8082						
Aroclor 1016	µg/kg	33	ND(39) /U		NT	ND(38) J-/U
8260						
2-Butanone	µg/kg	3800	ND(59) /U		NT	ND(12) /U
2-Hexanone	µg/kg	--	ND(59) /U		NT	ND(12) /U
Acetone	µg/kg	240	140. J+/J		NT	ND(58) U/J
Benzene	µg/kg	5	150. J+		NT	ND(2.3) /U
Carbon disulfide	µg/kg	200000	ND(59) J-/U		NT	ND(12) J-/U
Ethylbenzene	µg/kg	5000	19. J+/J		NT	ND(5.8) /U
Methylene chloride	µg/kg	76	ND(30) /U		NT	ND(5.8) /U
Methyl-tert-butyl ether	µg/kg	23	ND(30) /U		NT	ND(5.8) /U
Toluene	µg/kg	1000	34. J+		NT	ND(5.8) U/J
Xylenes (m&p-)	µg/kg	5700	73. J+		NT	ND(5.8) /U
Xylenes (o-)	µg/kg	5700	8.4 J+/J		NT	ND(5.8) /U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB104		231SB104		231SB104	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		5		5		7	
			Sample Number:		231SB104(5)		231SB104(5)		231SB104(7)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene			µg/kg	310	NT		NT		NT	
Acenaphthylene			µg/kg	67	NT		NT		NT	
Anthracene			µg/kg	450	NT		NT		NT	
Benzo(a)anthracene			µg/kg	270	NT		NT		NT	
Benzo(a)pyrene			µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene			µg/kg	270	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	
8270SIM										
Acenaphthene			µg/kg	310	ND ( 31 )	/U	NT		21.	
Acenaphthylene			µg/kg	67	ND ( 31 )	/U	NT		ND ( 7.7 )	/U
Anthracene			µg/kg	450	ND ( 31 )	/U	NT		10.	
Benzo(a)anthracene			µg/kg	270	24.	/J	NT		ND ( 7.7 )	/U
Benzo(a)pyrene			µg/kg	27	27.	/J	NT		ND ( 7.7 )	/U
Benzo(b)fluoranthene			µg/kg	270	57.		NT		3.1	/J

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB104		231SB104		231SB104	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		5		5		7	
			Sample Number:		231SB104(5)		231SB104(5)		231SB104(7)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	68.		NT		3.1	/J
Benzo(g,h,i)perylene			µg/kg	250	24.	/J	NT		ND ( 7.7 )	/U
Benzo(k)fluoranthene			µg/kg	270	11.	/J	NT		ND ( 7.7 )	/U
Chrysene			µg/kg	670	33.		NT		2.2	/J
Dibenzo(a,h)anthracene			µg/kg	71	9.4	/J	NT		ND ( 7.7 )	/U
Fluoranthene			µg/kg	1500	27.	/J	NT		6.8	/J
Fluorene			µg/kg	280	ND ( 31 )	/U	NT		6.8	/J
Indeno(1,2,3-cd)pyrene			µg/kg	260	13.	/J	NT		ND ( 7.7 )	/U
Naphthalene			µg/kg	300	230.		NT		3.4	/J
Phenanthrene			µg/kg	610	43.		NT		130.	
Pyrene			µg/kg	790	37.		NT		4.9	/J

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
 Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB104		231SB104		231SB105	
			Sample Date:		05/12/04		05/12/04		04/07/04	
			Sample Depth (feet):		7		11		10	
			Sample Number:		231SB104(7)		231SB104(11)		231SB105(10)	
			Lab Batch:		P405251		P405251		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)	mg/kg	115	ND ( 5 . 8 )	/U	ND ( 5 )	/U			NT	
TPH Fuel Oil (C24-C36)	mg/kg	144	1 . 6	/J	15 .				NT	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		NT		ND ( 6 4 0 0 )	J - /U		
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND ( 5 . 8 )	U / J	ND ( 5 . 4 )	U			NT	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		NT		6 , 9 0 0 .	J -		
8021										
Benzene	µg/kg	5	NT		NT				NT	
Ethylbenzene	µg/kg	5000	NT		NT				NT	
Toluene	µg/kg	1000	NT		NT				NT	
Xylenes (total)	µg/kg	5700	NT		NT				NT	
8082										
Aroclor 1016	µg/kg	33	NT		NT		ND ( 4 2 )	J - /U		
8260										
2-Butanone	µg/kg	3800	NT		NT		2 . 8	/J		
2-Hexanone	µg/kg	--	NT		NT		ND ( 1 3 )	/U		
Acetone	µg/kg	240	NT		NT		ND ( 6 4 )	/U		
Benzene	µg/kg	5	NT		NT		ND ( 2 . 6 )	/U		
Carbon disulfide	µg/kg	200000	NT		NT		ND ( 1 3 )	J - /U		
Ethylbenzene	µg/kg	5000	NT		NT		ND ( 6 . 4 )	/U		
Methylene chloride	µg/kg	76	NT		NT		ND ( 6 . 4 )	/U		
Methyl-tert-butyl ether	µg/kg	23	NT		NT		ND ( 6 . 4 )	/U		
Toluene	µg/kg	1000	NT		NT		ND ( 6 . 4 )	/U		
Xylenes (m&p-)	µg/kg	5700	NT		NT		ND ( 6 . 4 )	/U		
Xylenes (o-)	µg/kg	5700	NT		NT		ND ( 6 . 4 )	/U		

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB104		231SB104		231SB105	
			Sample Date: 05/12/04		05/12/04		04/07/04	
			Sample Depth (feet): 7		11		10	
			Sample Number: 231SB104(7)		231SB104(11)		231SB105(10)	
			Lab Batch: P405251		P405251		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		ND (8.5)	/U
Acenaphthylene	µg/kg	67	NT		NT		ND (8.5)	/U
Anthracene	µg/kg	450	NT		NT		ND (8.5)	/U
Benzo(a)anthracene	µg/kg	270	NT		NT		ND (8.5)	/U
Benzo(a)pyrene	µg/kg	27	NT		NT		ND (8.5)	/U
Benzo(b)fluoranthene	µg/kg	270	NT		NT		ND (8.5)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB104		231SB104		231SB105	
			Sample Date: 05/12/04		05/12/04		04/07/04	
			Sample Depth (feet): 7		11		10	
			Sample Number: 231SB104(7)		231SB104(11)		231SB105(10)	
			Lab Batch: P405251		P405251		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		ND(17)	/U
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		ND(8.5)	/U
Benzo(k)fluoranthene	µg/kg	270	NT		NT		ND(8.5)	/U
Chrysene	µg/kg	670	NT		NT		ND(8.5)	/U
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		ND(8.5)	/U
Fluoranthene	µg/kg	1500	NT		NT		ND(8.5)	/U
Fluorene	µg/kg	280	NT		NT		ND(8.5)	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		ND(8.5)	/U
Naphthalene	µg/kg	300	NT		NT		ND(8.5)	/U
Phenanthrene	µg/kg	610	NT		NT		ND(8.5)	/U
Pyrene	µg/kg	790	NT		NT		<b>1.5</b>	<b>/J</b>

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	231SB105	231SB105	231SB105			231SB105
		Sample Date:	04/07/04	05/12/04	04/07/04			04/07/04
		Sample Depth (feet):	3	3	5.5			5.5
		Sample Number:	231SB105(3)	231SB105(3)	231SB105(5.5)			231SB105(5.5)
		Lab Batch:	P404235	P405251	P404235			P404235
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	NT		ND(6)	/U	NT	
TPH Fuel Oil (C24-C36)	mg/kg	144	NT		16.		NT	
TPH Gasoline (C7-C12)	µg/kg	11600	220.	/J	NT		ND(110000)	/U
TPH Unknown Diesel Hydrocarbon	mg/kg	115	NT		8.5		NT	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1100)	/U	NT		270,000.	
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	ND(35)	/U	NT		ND(37)	/U
8260								
2-Butanone	µg/kg	3800	ND(11)	/U	NT		ND(55)	/U
2-Hexanone	µg/kg	--	ND(11)	/U	NT		ND(55)	/U
Acetone	µg/kg	240	ND(54)	/U	NT		120.	J+/J
Benzene	µg/kg	5	ND(2.1)	/U	NT		ND(11)	/U
Carbon disulfide	µg/kg	200000	ND(11)	J-/U	NT		ND(55)	J-/U
Ethylbenzene	µg/kg	5000	ND(5.4)	/U	NT		ND(28)	/U
Methylene chloride	µg/kg	76	ND(5.4)	/U	NT		ND(28)	/U
Methyl-tert-butyl ether	µg/kg	23	ND(5.4)	/U	NT		ND(28)	/U
Toluene	µg/kg	1000	ND(5.4)	/U	NT		9.8	J+/J
Xylenes (m&p-)	µg/kg	5700	ND(5.4)	/U	NT		25.	J+/J
Xylenes (o-)	µg/kg	5700	ND(5.4)	/U	NT		ND(28)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB105		231SB105		231SB105	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		3		3		5.5	
			Sample Number:		231SB105(3)		231SB105(3)		231SB105(5.5)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene			µg/kg	310	NT		NT		NT	
Acenaphthylene			µg/kg	67	NT		NT		NT	
Anthracene			µg/kg	450	NT		NT		NT	
Benzo(a)anthracene			µg/kg	270	NT		NT		NT	
Benzo(a)pyrene			µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene			µg/kg	270	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	
8270SIM										
Acenaphthene			µg/kg	310	ND ( 7.1 )	/U	NT		25.	/J
Acenaphthylene			µg/kg	67	ND ( 7.1 )	/U	NT		13.	/J
Anthracene			µg/kg	450	ND ( 7.1 )	/U	NT		17.	/J
Benzo(a)anthracene			µg/kg	270	5.2	/J	NT		31.	
Benzo(a)pyrene			µg/kg	27	4.5	/J	NT		ND ( 29 )	/U
Benzo(b)fluoranthene			µg/kg	270	12.		NT		38.	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB105		231SB105		231SB105	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		3		3		5.5	
			Sample Number:		231SB105(3)		231SB105(3)		231SB105(5.5)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	14.		NT		45.	/J
Benzo(g,h,i)perylene			µg/kg	250	4.2	/J	NT		18.	/J
Benzo(k)fluoranthene			µg/kg	270	2.3	/J	NT		7.6	/J
Chrysene			µg/kg	670	6.9	/J	NT		36.	
Dibenzo(a,h)anthracene			µg/kg	71	ND ( 7.1 )	/U	NT		ND ( 29 )	/U
Fluoranthene			µg/kg	1500	6.9	/J	NT		63.	
Fluorene			µg/kg	280	ND ( 7.1 )	/U	NT		52.	
Indeno(1,2,3-cd)pyrene			µg/kg	260	2.6	/J	NT		ND ( 29 )	/U
Naphthalene			µg/kg	300	8.7		NT		53.	
Phenanthrene			µg/kg	610	11.		NT		98.	
Pyrene			µg/kg	790	8.5		NT		87.	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		231SB105	231SB105	231SB105		
		Sample Date:		05/12/04	04/07/04	05/12/04		
		Sample Depth (feet):		5.5	7	11		
		Sample Number:		231SB105(5.5)	231SB105(7.0)	231SB105(11)R		
		Lab Batch:		P405251	P404235	P405251		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	1,100.		NT		ND(6.1)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	2,300.		NT		32.	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		1,700.		NT	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	1,100.		NT		14.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		ND(1300)	/U	NT	
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		60.		NT	
8260								
2-Butanone	µg/kg	3800	NT		ND(63)	/U	NT	
2-Hexanone	µg/kg	--	NT		ND(63)	/U	NT	
Acetone	µg/kg	240	NT		100.	J+/J	NT	
Benzene	µg/kg	5	NT		ND(13)	/U	NT	
Carbon disulfide	µg/kg	200000	NT		ND(63)	J-/U	NT	
Ethylbenzene	µg/kg	5000	NT		ND(31)	/U	NT	
Methylene chloride	µg/kg	76	NT		ND(31)	/U	NT	
Methyl-tert-butyl ether	µg/kg	23	NT		ND(31)	/U	NT	
Toluene	µg/kg	1000	NT		10.	J+/J	NT	
Xylenes (m&p-)	µg/kg	5700	NT		22.	J+/J	NT	
Xylenes (o-)	µg/kg	5700	NT		12.	J+/J	NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB105		231SB105		231SB105	
			Sample Date: 05/12/04		04/07/04		05/12/04	
			Sample Depth (feet): 5.5		7		11	
			Sample Number: 231SB105(5.5)		231SB105(7.0)		231SB105(11)R	
			Lab Batch: P405251		P404235		P405251	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		9.6		NT	
Acenaphthylene	µg/kg	67	NT		5.5	/J	NT	
Anthracene	µg/kg	450	NT		17.		NT	
Benzo(a)anthracene	µg/kg	270	NT		27.		NT	
Benzo(a)pyrene	µg/kg	27	NT		ND ( 8.3 )	/U	NT	
Benzo(b)fluoranthene	µg/kg	270	NT		28.		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB105		231SB105		231SB105	
			Sample Date:		05/12/04		04/07/04		05/12/04	
			Sample Depth (feet):		5.5		7		11	
			Sample Number:		231SB105(5.5)		231SB105(7.0)		231SB105(11)R	
			Lab Batch:		P405251		P404235		P405251	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		37.		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		12.		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		8.2	/J	NT	
Chrysene			µg/kg	670	NT		27.		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		ND( 8.3)	/U	NT	
Fluoranthene			µg/kg	1500	NT		46.		NT	
Fluorene			µg/kg	280	NT		23.		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		5.2	/J	NT	
Naphthalene			µg/kg	300	NT		55.		NT	
Phenanthrene			µg/kg	610	NT		71.		NT	
Pyrene			µg/kg	790	NT		69.		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB105		231SB106		231SB106	
			Sample Date: 05/12/04		04/08/04		04/08/04	
			Sample Depth (feet): 7		10		3	
			Sample Number: 231SB105(7.0)R		231SB106(10)		231SB106(3)	
			Lab Batch: P405251		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(6.2)	/U	ND(13)	/U	ND(6)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	22.		70.		110.	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		ND(2700)	U/J	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	10.		21.		57.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		ND(2700)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	NT		ND(27)	/U	0.32	/J
Ethylbenzene	µg/kg	5000	NT		ND(27)	/U	1.0	/J
Toluene	µg/kg	1000	NT		6.5	/J	2.7	/J
Xylenes (total)	µg/kg	5700	NT		ND(27)	U/J	3.5	/J
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>		<b>231SB105</b>	<b>231SB106</b>		<b>231SB106</b>	
		<b>Sample Date:</b>		<b>05/12/04</b>	<b>04/08/04</b>		<b>04/08/04</b>	
		<b>Sample Depth (feet):</b>		<b>7</b>	<b>10</b>		<b>3</b>	
		<b>Sample Number:</b>		<b>231SB105(7.0)R</b>	<b>231SB106(10)</b>		<b>231SB106(3)</b>	
		<b>Lab Batch:</b>		<b>P405251</b>	<b>P404268</b>		<b>P404268</b>	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB105		231SB106		231SB106	
			Sample Date:		05/12/04		04/08/04		04/08/04	
			Sample Depth (feet):		7		10		3	
			Sample Number:		231SB105(7.0)R		231SB106(10)		231SB106(3)	
			Lab Batch:		P405251		P404268		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB106		231SB106		231SB107	
			Sample Date: 04/08/04		04/08/04		04/05/04	
			Sample Depth (feet): 5		7		1	
			Sample Number: 231SB106(5)		231SB106(7)		231SB107(1)	
			Lab Batch: P404268		P404268		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(120)	/U	ND(6.2)	/U	47.	
TPH Fuel Oil (C24-C36)	mg/kg	144	2,000.		18.		210.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	ND(1200)	/U	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	370.		ND(6.2)	U	ND(12)	/U
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1200)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	ND(6.1)	/U	ND(6.2)	/U	ND(5.8)	/U
Ethylbenzene	µg/kg	5000	0.80	/J	ND(6.2)	/U	ND(5.8)	U/J
Toluene	µg/kg	1000	3.2	/J	3.6	/J	ND(5.8)	U/J
Xylenes (total)	µg/kg	5700	4.5	/J	ND(6.2)	U/J	ND(5.8)	U/J
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB106		231SB106		231SB107	
			Sample Date: 04/08/04		04/08/04		04/05/04	
			Sample Depth (feet): 5		7		1	
			Sample Number: 231SB106(5)		231SB106(7)		231SB107(1)	
			Lab Batch: P404268		P404268		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB106		231SB106		231SB107	
			Sample Date:		04/08/04		04/08/04		04/05/04	
			Sample Depth (feet):		5		7		1	
			Sample Number:		231SB106(5)		231SB106(7)		231SB107(1)	
			Lab Batch:		P404268		P404268		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		231SB108	231SB108	231SB108		
		Sample Date:		04/05/04	04/05/04	04/05/04		
		Sample Depth (feet):		10	3	5		
		Sample Number:		231SB108(10)	231SB108(3)	231SB108(5)		
		Lab Batch:		P404204	P404204	P404204		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(6.1)	/U	270.		450.	
TPH Fuel Oil (C24-C36)	mg/kg	144	14.		800.		820.	
TPH Gasoline (C7-C12)	µg/kg	11600	2,800.		2,200.		310.	/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(6.6)	U	ND(110)	/U	ND(110)	/U
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1100)	/U	ND(1100)	/U
8021								
Benzene	µg/kg	5	18.		5.3	/J	6.4	
Ethylbenzene	µg/kg	5000	9.8		ND(5.6)	U/J	ND(5.7)	U/J
Toluene	µg/kg	1000	4.5	/J	ND(5.6)	/U	5.7	
Xylenes (total)	µg/kg	5700	12.		ND(8.6)	U	ND(6.5)	U
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB108		231SB108		231SB108	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 10		3		5	
			Sample Number: 231SB108(10)		231SB108(3)		231SB108(5)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB108		231SB108		231SB108	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		10		3		5	
			Sample Number:		231SB108(10)		231SB108(3)		231SB108(5)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:	231SB108	231SB109	231SB109		
			Sample Date:	04/05/04	04/05/04	04/05/04		
			Sample Depth (feet):	7	10	3		
			Sample Number:	231SB108(7)	231SB109(10)	231SB109(3)		
			Lab Batch:	P404204	P404204	P404204		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	260.		ND(5.8)	/U	19.	
TPH Fuel Oil (C24-C36)	mg/kg	144	690.		2.6	/J	55.	
TPH Gasoline (C7-C12)	µg/kg	11600	2,900,000.		340.	/J	1,500.	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(110)	/U	ND(5.8)	U/J	ND(5.8)	/U
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1100000)	/U	ND(1200)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	ND(5700)	/U	ND(5.8)	/U	ND(5.8)	/U
Ethylbenzene	µg/kg	5000	23,000.		ND(5.8)	U/J	2.1	/J
Toluene	µg/kg	1000	ND(5700)	/U	ND(5.8)	U/J	ND(5.8)	/U
Xylenes (total)	µg/kg	5700	13,000.		ND(5.8)	U/J	8.5	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB108		231SB109		231SB109	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 7		10		3	
			Sample Number: 231SB108(7)		231SB109(10)		231SB109(3)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB108		231SB109		231SB109	
			Sample Date:		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		7		10		3	
			Sample Number:		231SB108(7)		231SB109(10)		231SB109(3)	
			Lab Batch:		P404204		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB109		231SB109		231SB110	
			Sample Date:		04/05/04		04/05/04		04/08/04	
			Sample Depth (feet):		5		7		10	
			Sample Number:		231SB109(5)		231SB109(7)		231SB110(10)	
			Lab Batch:		P404204		P404204		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)	mg/kg	115	12.		ND(5.7)	/U	ND(5.3)	/U		
TPH Fuel Oil (C24-C36)	mg/kg	144	42.		6.8	/J	ND(11)	U/J		
TPH Gasoline (C7-C12)	µg/kg	11600	1,100.	/J	ND(1100)	U/J	ND(1100)	U/J		
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(5.9)	/U	ND(5.7)	U/J	ND(5.3)	U/J		
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1100)	/U	ND(1100)	/U		
8021										
Benzene	µg/kg	5	0.30	/J	ND(5.7)	/U	ND(5.3)	/U		
Ethylbenzene	µg/kg	5000	ND(5.9)	U/J	ND(5.7)	U/J	ND(5.3)	U/J		
Toluene	µg/kg	1000	ND(5.9)	U/J	ND(5.7)	U/J	ND(5.3)	U/J		
Xylenes (total)	µg/kg	5700	ND(7.2)	U	ND(5.7)	U/J	ND(5.3)	U/J		
8082										
Aroclor 1016	µg/kg	33	NT		NT		NT			
8260										
2-Butanone	µg/kg	3800	NT		NT		NT			
2-Hexanone	µg/kg	--	NT		NT		NT			
Acetone	µg/kg	240	NT		NT		NT			
Benzene	µg/kg	5	NT		NT		NT			
Carbon disulfide	µg/kg	200000	NT		NT		NT			
Ethylbenzene	µg/kg	5000	NT		NT		NT			
Methylene chloride	µg/kg	76	NT		NT		NT			
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT			
Toluene	µg/kg	1000	NT		NT		NT			
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT			
Xylenes (o-)	µg/kg	5700	NT		NT		NT			

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB109		231SB109		231SB110	
			Sample Date:		04/05/04		04/05/04		04/08/04	
			Sample Depth (feet):		5		7		10	
			Sample Number:		231SB109(5)		231SB109(7)		231SB110(10)	
			Lab Batch:		P404204		P404204		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene			µg/kg	310	NT		NT		NT	
Acenaphthylene			µg/kg	67	NT		NT		NT	
Anthracene			µg/kg	450	NT		NT		NT	
Benzo(a)anthracene			µg/kg	270	NT		NT		NT	
Benzo(a)pyrene			µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene			µg/kg	270	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	
8270SIM										
Acenaphthene			µg/kg	310	NT		NT		NT	
Acenaphthylene			µg/kg	67	NT		NT		NT	
Anthracene			µg/kg	450	NT		NT		NT	
Benzo(a)anthracene			µg/kg	270	NT		NT		NT	
Benzo(a)pyrene			µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene			µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB109		231SB109		231SB110	
			Sample Date:		04/05/04		04/05/04		04/08/04	
			Sample Depth (feet):		5		7		10	
			Sample Number:		231SB109(5)		231SB109(7)		231SB110(10)	
			Lab Batch:		P404204		P404204		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB110		231SB110		231SB110	
			Sample Date:		04/08/04		04/08/04		04/08/04	
			Sample Depth (feet):		5		3		7	
			Sample Number:		231SB110(5)		231SB110(3)		231SB110(7)	
			Lab Batch:		P404268		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)	mg/kg	115	ND(5.9)	/U	ND(5.8)	/U	ND(5.6)	/U		
TPH Fuel Oil (C24-C36)	mg/kg	144	ND(12)	U/J	ND(12)	U/J	ND(11)	U/J		
TPH Gasoline (C7-C12)	µg/kg	11600	240.	/J	ND(1200)	U/J	560.	/J		
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(5.9)	U/J	ND(5.8)	U/J	ND(5.6)	U/J		
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1200)	/U	ND(1100)	/U		
8021										
Benzene	µg/kg	5	ND(5.9)	/U	ND(5.8)	/U	ND(5.6)	/U		
Ethylbenzene	µg/kg	5000	ND(5.9)	U/J	ND(5.8)	/U	ND(5.6)	U/J		
Toluene	µg/kg	1000	ND(5.9)	U/J	ND(5.8)	U/J	ND(5.6)	U/J		
Xylenes (total)	µg/kg	5700	ND(5.9)	U/J	ND(5.8)	/U	ND(5.6)	U/J		
8082										
Aroclor 1016	µg/kg	33	NT		NT		NT			
8260										
2-Butanone	µg/kg	3800	NT		NT		NT			
2-Hexanone	µg/kg	--	NT		NT		NT			
Acetone	µg/kg	240	NT		NT		NT			
Benzene	µg/kg	5	NT		NT		NT			
Carbon disulfide	µg/kg	200000	NT		NT		NT			
Ethylbenzene	µg/kg	5000	NT		NT		NT			
Methylene chloride	µg/kg	76	NT		NT		NT			
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT			
Toluene	µg/kg	1000	NT		NT		NT			
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT			
Xylenes (o-)	µg/kg	5700	NT		NT		NT			

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB110		231SB110		231SB110	
			Sample Date: 04/08/04		04/08/04		04/08/04	
			Sample Depth (feet): 5		3		7	
			Sample Number: 231SB110(5)		231SB110(3)		231SB110(7)	
			Lab Batch: P404268		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>		<b>231SB110</b>		<b>231SB110</b>		<b>231SB110</b>	
		<b>Sample Date:</b>		<b>04/08/04</b>		<b>04/08/04</b>		<b>04/08/04</b>	
		<b>Sample Depth (feet):</b>		<b>5</b>		<b>3</b>		<b>7</b>	
		<b>Sample Number:</b>		<b>231SB110(5)</b>		<b>231SB110(3)</b>		<b>231SB110(7)</b>	
		<b>Lab Batch:</b>		<b>P404268</b>		<b>P404268</b>		<b>P404268</b>	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT		
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT		
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT		
Chrysene	µg/kg	670	NT		NT		NT		
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT		
Fluoranthene	µg/kg	1500	NT		NT		NT		
Fluorene	µg/kg	280	NT		NT		NT		
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT		
Naphthalene	µg/kg	300	NT		NT		NT		
Phenanthrene	µg/kg	610	NT		NT		NT		
Pyrene	µg/kg	790	NT		NT		NT		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB111		231SB111		231SB111	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 10		2.5		5	
			Sample Number: 231SB111(10)		231SB111(2.5)		231SB111(5)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND (12)	/U	27.	J-	ND (230)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	90.		72.		820.	
TPH Gasoline (C7-C12)	µg/kg	11600	960.	/J	4,600.	J-	2,600.	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	29.		27.		130.	/J
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND (1200)	/U	ND (1200)	/U	ND (1200)	/U
8021								
Benzene	µg/kg	5	ND (6.1)	/U	ND (5.9)	J-/U	ND (5.8)	/U
Ethylbenzene	µg/kg	5000	ND (6.1)	U/J	6.1	J-	3.1	/J
Toluene	µg/kg	1000	4.6	/J	28.	J-	19.	
Xylenes (total)	µg/kg	5700	ND (6.1)	U/J	22.	J-	13.	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB111		231SB111		231SB111	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 10		2.5		5	
			Sample Number: 231SB111(10)		231SB111(2.5)		231SB111(5)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB111		231SB111		231SB111	
			Sample Date:		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		10		2.5		5	
			Sample Number:		231SB111(10)		231SB111(2.5)		231SB111(5)	
			Lab Batch:		P404234		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB111		231SB112		231SB112	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 7		10		3	
			Sample Number: 231SB111(7)		231SB112(10)		231SB112(3)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(12)	/U	ND(57)	/U	ND(5.8)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	88.		410.		170.	J+
TPH Gasoline (C7-C12)	µg/kg	11600	8,100.		390.	/J	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	37.		200.		94.	J+
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1100)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	ND(6)	/U	ND(5.7)	/U	ND(5.8)	/U
Ethylbenzene	µg/kg	5000	5.4	/J	ND(5.7)	U/J	ND(5.8)	U/J
Toluene	µg/kg	1000	43.		3.5	/J	3.2	/J
Xylenes (total)	µg/kg	5700	11.		ND(5.7)	U/J	ND(5.8)	U/J
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB111		231SB112		231SB112	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 7		10		3	
			Sample Number: 231SB111(7)		231SB112(10)		231SB112(3)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB111		231SB112		231SB112	
			Sample Date:		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		7		10		3	
			Sample Number:		231SB111(7)		231SB112(10)		231SB112(3)	
			Lab Batch:		P404234		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB112		231SB112		231SB113	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 5.5		7.5		10	
			Sample Number: 231SB112(5.5)		231SB112(7.5)		231SB113(10)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(62)	/U	ND(12)	/U	ND(42)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	660.		120.	J+	810.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	ND(1200)	U/J	ND(2100)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	110.		51.	J+	120.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1200)	/U	ND(2100)	/U
8021								
Benzene	µg/kg	5	0.31	/J	ND(5.8)	/U	ND(11)	/U
Ethylbenzene	µg/kg	5000	ND(6.2)	U/J	ND(5.8)	U/J	ND(11)	/U
Toluene	µg/kg	1000	2.8	/J	3.2	/J	2.4	/J
Xylenes (total)	µg/kg	5700	ND(6.2)	U/J	ND(5.8)	U/J	ND(11)	U/J
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		NT		NT	
2-Hexanone	µg/kg	--	NT		NT		NT	
Acetone	µg/kg	240	NT		NT		NT	
Benzene	µg/kg	5	NT		NT		NT	
Carbon disulfide	µg/kg	200000	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Methylene chloride	µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT	
Xylenes (o-)	µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB112		231SB112		231SB113	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 5.5		7.5		10	
			Sample Number: 231SB112(5.5)		231SB112(7.5)		231SB113(10)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB112		231SB112		231SB113	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 5.5		7.5		10	
			Sample Number: 231SB112(5.5)		231SB112(7.5)		231SB113(10)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB113		231SB113		231SB113	
			Sample Date:		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		3		5.5		7.5	
			Sample Number:		231SB113(3)		231SB113(5.5)		231SB113(7.5)	
			Lab Batch:		P404234		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/kg	115	ND (11)	/U	ND (58)	/U	ND (6)	/U
TPH Fuel Oil (C24-C36)			mg/kg	144	98.		1,300.		2.1	/J
TPH Gasoline (C7-C12)			µg/kg	11600	ND (1100)	U/J	ND (1200)	U/J	ND (1200)	U/J
TPH Unknown Diesel Hydrocarbon			mg/kg	115	46.		240.		ND (6)	U/J
TPH Unknown Gasoline Hydrocarbon			µg/kg	11600	ND (1100)	/U	ND (1200)	/U	ND (1200)	/U
8021										
Benzene			µg/kg	5	ND (5.7)	/U	ND (5.8)	/U	ND (6)	/U
Ethylbenzene			µg/kg	5000	ND (5.7)	/U	ND (5.8)	U/J	ND (6)	U/J
Toluene			µg/kg	1000	ND (5.7)	/U	4.1	/J	4.8	/J
Xylenes (total)			µg/kg	5700	ND (5.7)	/U	ND (5.8)	U/J	ND (6)	U/J
8082										
Aroclor 1016			µg/kg	33	NT		NT		NT	
8260										
2-Butanone			µg/kg	3800	NT		NT		NT	
2-Hexanone			µg/kg	--	NT		NT		NT	
Acetone			µg/kg	240	NT		NT		NT	
Benzene			µg/kg	5	NT		NT		NT	
Carbon disulfide			µg/kg	200000	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Methylene chloride			µg/kg	76	NT		NT		NT	
Methyl-tert-butyl ether			µg/kg	23	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (m&p-)			µg/kg	5700	NT		NT		NT	
Xylenes (o-)			µg/kg	5700	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB113	231SB113		231SB113	
			Sample Date:		04/06/04	04/06/04		04/06/04	
			Sample Depth (feet):		3	5.5		7.5	
			Sample Number:		231SB113(3)	231SB113(5.5)		231SB113(7.5)	
			Lab Batch:		P404234	P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	
8270									
Acenaphthene	µg/kg	310	NT		NT		NT		
Acenaphthylene	µg/kg	67	NT		NT		NT		
Anthracene	µg/kg	450	NT		NT		NT		
Benzo(a)anthracene	µg/kg	270	NT		NT		NT		
Benzo(a)pyrene	µg/kg	27	NT		NT		NT		
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT		
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT		
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT		
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT		
Chrysene	µg/kg	670	NT		NT		NT		
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT		
Fluoranthene	µg/kg	1500	NT		NT		NT		
Fluorene	µg/kg	280	NT		NT		NT		
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT		
Naphthalene	µg/kg	300	NT		NT		NT		
Phenanthrene	µg/kg	610	NT		NT		NT		
Pyrene	µg/kg	790	NT		NT		NT		
8270SIM									
Acenaphthene	µg/kg	310	NT		NT		NT		
Acenaphthylene	µg/kg	67	NT		NT		NT		
Anthracene	µg/kg	450	NT		NT		NT		
Benzo(a)anthracene	µg/kg	270	NT		NT		NT		
Benzo(a)pyrene	µg/kg	27	NT		NT		NT		
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT		

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB113		231SB113		231SB113	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 3		5.5		7.5	
			Sample Number: 231SB113(3)		231SB113(5.5)		231SB113(7.5)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB114		231SB114		231SB114	
			Sample Date:		04/07/04		04/07/04		05/12/04	
			Sample Depth (feet):		10		3		3	
			Sample Number:		231SB114(10)		231SB114(3)		231SB114(3)	
			Lab Batch:		P404235		P404235		P405251	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)	mg/kg	115	ND (6.2)	/U	NT		ND (5.5)	/U		
TPH Fuel Oil (C24-C36)	mg/kg	144	9.5	/J	NT		17.			
TPH Gasoline (C7-C12)	µg/kg	11600	ND (1200)	U/J	ND (1200)	U/J	NT			
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND (6.2)	U/J	NT		6.6			
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND (1200)	/U	ND (1200)	/U	NT			
8021										
Benzene	µg/kg	5	ND (6.2)	/U	ND (5.9)	/U	NT			
Ethylbenzene	µg/kg	5000	0.59	/J	0.70	/J	NT			
Toluene	µg/kg	1000	3.0	/J	5.5	/J	NT			
Xylenes (total)	µg/kg	5700	ND (6.2)	U/J	3.6	/J	NT			
8082										
Aroclor 1016	µg/kg	33	NT		NT		NT			
8260										
2-Butanone	µg/kg	3800	NT		NT		NT			
2-Hexanone	µg/kg	--	NT		NT		NT			
Acetone	µg/kg	240	NT		NT		NT			
Benzene	µg/kg	5	NT		NT		NT			
Carbon disulfide	µg/kg	200000	NT		NT		NT			
Ethylbenzene	µg/kg	5000	NT		NT		NT			
Methylene chloride	µg/kg	76	NT		NT		NT			
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT			
Toluene	µg/kg	1000	NT		NT		NT			
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT			
Xylenes (o-)	µg/kg	5700	NT		NT		NT			

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB114		231SB114		231SB114	
			Sample Date: 04/07/04		04/07/04		05/12/04	
			Sample Depth (feet): 10		3		3	
			Sample Number: 231SB114(10)		231SB114(3)		231SB114(3)	
			Lab Batch: P404235		P404235		P405251	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>		<b>231SB114</b>		<b>231SB114</b>		<b>231SB114</b>	
		<b>Sample Date:</b>		<b>04/07/04</b>		<b>04/07/04</b>		<b>05/12/04</b>	
		<b>Sample Depth (feet):</b>		<b>10</b>		<b>3</b>		<b>3</b>	
		<b>Sample Number:</b>		<b>231SB114(10)</b>		<b>231SB114(3)</b>		<b>231SB114(3)</b>	
		<b>Lab Batch:</b>		<b>P404235</b>		<b>P404235</b>		<b>P405251</b>	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT		
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT		
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT		
Chrysene	µg/kg	670	NT		NT		NT		
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT		
Fluoranthene	µg/kg	1500	NT		NT		NT		
Fluorene	µg/kg	280	NT		NT		NT		
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT		
Naphthalene	µg/kg	300	NT		NT		NT		
Phenanthrene	µg/kg	610	NT		NT		NT		
Pyrene	µg/kg	790	NT		NT		NT		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	231SB114	231SB114	231SB114			231SB114	231SB114
		Sample Date:	04/07/04	05/12/04	04/07/04			04/07/04	04/07/04
		Sample Depth (feet):	5	5	7			7	7
		Sample Number:	231SB114(5)	231SB114(5)	231SB114(7)			231SB114(7)	231SB114(7)
		Lab Batch:	P404235	P405251	P404235			P404235	P404235
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value
8015 Modified									
TPH Diesel (C12-C24)	mg/kg	115	NT		ND(5.8)	/U	ND(6)	U/J	
TPH Fuel Oil (C24-C36)	mg/kg	144	NT		75.		ND(12)	U/J	
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	NT		ND(1200)	/U	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	NT		26.		ND(6)	U/J	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	NT		ND(1200)	/U	
8021									
Benzene	µg/kg	5	ND(5.9)	/U	NT		ND(6)	/U	
Ethylbenzene	µg/kg	5000	0.65	/J	NT		0.35	/J	
Toluene	µg/kg	1000	4.2	/J	NT		6.0		
Xylenes (total)	µg/kg	5700	ND(5.9)	U/J	NT		ND(6)	U/J	
8082									
Aroclor 1016	µg/kg	33	NT		NT		NT		
8260									
2-Butanone	µg/kg	3800	NT		NT		NT		
2-Hexanone	µg/kg	--	NT		NT		NT		
Acetone	µg/kg	240	NT		NT		NT		
Benzene	µg/kg	5	NT		NT		NT		
Carbon disulfide	µg/kg	200000	NT		NT		NT		
Ethylbenzene	µg/kg	5000	NT		NT		NT		
Methylene chloride	µg/kg	76	NT		NT		NT		
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT		
Toluene	µg/kg	1000	NT		NT		NT		
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT		
Xylenes (o-)	µg/kg	5700	NT		NT		NT		

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB114		231SB114		231SB114	
			Sample Date: 04/07/04		05/12/04		04/07/04	
			Sample Depth (feet): 5		5		7	
			Sample Number: 231SB114(5)		231SB114(5)		231SB114(7)	
			Lab Batch: P404235		P405251		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB114		231SB114		231SB114	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		5		5		7	
			Sample Number:		231SB114(5)		231SB114(5)		231SB114(7)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB115		231SB115		231SB115	
			Sample Date:		04/08/04		04/08/04		04/08/04	
			Sample Depth (feet):		10		3		5.5	
			Sample Number:		231SB115(10)		231SB115(3.0)		231SB115(5.5)	
			Lab Batch:		P404268		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)	mg/kg	115	ND(12)	/U	ND(5.7)	/U	ND(5.9)	/U		
TPH Fuel Oil (C24-C36)	mg/kg	144	140.		79.		84.			
TPH Gasoline (C7-C12)	µg/kg	11600	580.	J-/J	ND(1100)	U/J	ND(1200)	/U		
TPH Unknown Diesel Hydrocarbon	mg/kg	115	25.		22.		21.			
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(2400)	J-/U	ND(1100)	/U	ND(1200)	/U		
8021										
Benzene	µg/kg	5	ND(12)	/U	ND(5.7)	/U	ND(5.9)	/U		
Ethylbenzene	µg/kg	5000	2.1	/J	ND(5.7)	/U	ND(5.9)	/U		
Toluene	µg/kg	1000	7.4	/J	1.8	/J	3.3	/J		
Xylenes (total)	µg/kg	5700	12.		ND(5.7)	U/J	ND(5.9)	U/J		
8082										
Aroclor 1016	µg/kg	33	NT		NT		NT			
8260										
2-Butanone	µg/kg	3800	NT		NT		NT			
2-Hexanone	µg/kg	--	NT		NT		NT			
Acetone	µg/kg	240	NT		NT		NT			
Benzene	µg/kg	5	NT		NT		NT			
Carbon disulfide	µg/kg	200000	NT		NT		NT			
Ethylbenzene	µg/kg	5000	NT		NT		NT			
Methylene chloride	µg/kg	76	NT		NT		NT			
Methyl-tert-butyl ether	µg/kg	23	NT		NT		NT			
Toluene	µg/kg	1000	NT		NT		NT			
Xylenes (m&p-)	µg/kg	5700	NT		NT		NT			
Xylenes (o-)	µg/kg	5700	NT		NT		NT			

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB115		231SB115		231SB115	
			Sample Date: 04/08/04		04/08/04		04/08/04	
			Sample Depth (feet): 10		3		5.5	
			Sample Number: 231SB115(10)		231SB115(3.0)		231SB115(5.5)	
			Lab Batch: P404268		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB115		231SB115		231SB115	
			Sample Date:		04/08/04		04/08/04		04/08/04	
			Sample Depth (feet):		10		3		5.5	
			Sample Number:		231SB115(10)		231SB115(3.0)		231SB115(5.5)	
			Lab Batch:		P404268		P404268		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB115		231SB116		231SB116	
			Sample Date: 04/08/04		04/05/04		04/05/04	
			Sample Depth (feet): 7.5		10		3	
			Sample Number: 231SB115(7.5)		231SB116(10)		231SB116(3)	
			Lab Batch: P404268		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND (6.1)	/U	ND (6)	/U	ND (5.9)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	4.7	/J	4.2	/J	16.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND (2400)	/U	ND (1200)	U/J	ND (1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND (6.1)	U/J	7.1		13.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	2,900.		ND (1200)	/U	ND (1200)	/U
8021								
Benzene	µg/kg	5	ND (30)	/U	NT		NT	
Ethylbenzene	µg/kg	5000	ND (30)	/U	NT		NT	
Toluene	µg/kg	1000	8.8	/J	NT		NT	
Xylenes (total)	µg/kg	5700	ND (30)	/U	NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		4.5	/J	4.8	/J
2-Hexanone	µg/kg	--	NT		ND (12)	/U	ND (12)	/U
Acetone	µg/kg	240	NT		30.	/J	29.	/J
Benzene	µg/kg	5	NT		ND (2.4)	/U	ND (2.3)	/U
Carbon disulfide	µg/kg	200000	NT		ND (12)	/U	ND (12)	/U
Ethylbenzene	µg/kg	5000	NT		ND (6)	/U	ND (5.9)	/U
Methylene chloride	µg/kg	76	NT		ND (6)	/U	ND (5.9)	/U
Methyl-tert-butyl ether	µg/kg	23	NT		ND (6)	/U	ND (5.9)	/U
Toluene	µg/kg	1000	NT		ND (6)	/U	ND (5.9)	U/J
Xylenes (m&p-)	µg/kg	5700	NT		ND (6)	/U	ND (5.9)	/U
Xylenes (o-)	µg/kg	5700	NT		ND (6)	/U	ND (5.9)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB115		231SB116		231SB116	
			Sample Date: 04/08/04		04/05/04		04/05/04	
			Sample Depth (feet): 7.5		10		3	
			Sample Number: 231SB115(7.5)		231SB116(10)		231SB116(3)	
			Lab Batch: P404268		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB115		231SB116		231SB116	
			Sample Date:		04/08/04		04/05/04		04/05/04	
			Sample Depth (feet):		7.5		10		3	
			Sample Number:		231SB115(7.5)		231SB116(10)		231SB116(3)	
			Lab Batch:		P404268		P404204		P404204	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB116		231SB116		271SB100	
			Sample Date: 04/05/04		04/05/04		04/08/04	
			Sample Depth (feet): 5		7		2	
			Sample Number: 231SB116(5)		231SB116(7)		271SB100(2)	
			Lab Batch: P404204		P404204		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(6.5)	/U	ND(5.9)	/U	ND(5.5)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	23.		14.		77.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1300)	U/J	ND(1200)	U/J	ND(1100)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	12.		7.0		24.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1300)	/U	ND(1200)	/U	ND(1100)	/U
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	10.	/J	10.	/J	ND(11)	/U
2-Hexanone	µg/kg	--	ND(13)	/U	ND(12)	/U	ND(11)	/U
Acetone	µg/kg	240	46.	/J	59.		ND(55)	/U
Benzene	µg/kg	5	ND(2.6)	/U	ND(2.4)	/U	ND(2.2)	/U
Carbon disulfide	µg/kg	200000	ND(13)	/U	ND(12)	/U	ND(11)	J-/U
Ethylbenzene	µg/kg	5000	ND(6.5)	/U	ND(5.9)	/U	ND(5.5)	/U
Methylene chloride	µg/kg	76	ND(6.5)	/U	ND(5.9)	/U	ND(5.5)	/U
Methyl-tert-butyl ether	µg/kg	23	ND(6.5)	/U	ND(5.9)	/U	ND(5.5)	/U
Toluene	µg/kg	1000	ND(6.5)	U/J	ND(5.9)	U/J	ND(5.5)	/U
Xylenes (m&p-)	µg/kg	5700	ND(6.5)	/U	ND(5.9)	/U	ND(5.5)	/U
Xylenes (o-)	µg/kg	5700	ND(6.5)	/U	ND(5.9)	/U	ND(5.5)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB116		231SB116		271SB100	
			Sample Date: 04/05/04		04/05/04		04/08/04	
			Sample Depth (feet): 5		7		2	
			Sample Number: 231SB116(5)		231SB116(7)		271SB100(2)	
			Lab Batch: P404204		P404204		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		ND (15)	/U
Acenaphthylene	µg/kg	67	NT		NT		ND (15)	/U
Anthracene	µg/kg	450	NT		NT		ND (15)	/U
Benzo(a)anthracene	µg/kg	270	NT		NT		13.	/J
Benzo(a)pyrene	µg/kg	27	NT		NT		13.	/J
Benzo(b)fluoranthene	µg/kg	270	NT		NT		23.	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		29.	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		7.9	/J
Benzo(k)fluoranthene	µg/kg	270	NT		NT		5.9	/J
Chrysene	µg/kg	670	NT		NT		17.	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		ND (15)	/U
Fluoranthene	µg/kg	1500	NT		NT		19.	
Fluorene	µg/kg	280	NT		NT		ND (15)	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		6.5	/J
Naphthalene	µg/kg	300	NT		NT		ND (15)	/U
Phenanthrene	µg/kg	610	NT		NT		22.	
Pyrene	µg/kg	790	NT		NT		26.	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB116		231SB116		271SB100	
			Sample Date:		04/05/04		04/05/04		04/08/04	
			Sample Depth (feet):		5		7		2	
			Sample Number:		231SB116(5)		231SB116(7)		271SB100(2)	
			Lab Batch:		P404204		P404204		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 271SB100		271SB100		271SB100	
			Sample Date: 04/08/04		04/08/04		04/08/04	
			Sample Depth (feet): 3.5		5		7	
			Sample Number: 271SB100(3.5)		271SB100(5)		271SB100(7)	
			Lab Batch: P404268		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(5.4)	/U	ND(5.8)	/U	ND(5.9)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	ND(11)	U/J	12.		ND(12)	U/J
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1100)	U/J	ND(1200)	/U	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(5.4)	U/J	11.		ND(5.9)	U/J
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1100)	/U	ND(1200)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	ND(11)	/U	ND(12)	/U	ND(12)	/U
2-Hexanone	µg/kg	--	ND(11)	/U	ND(12)	/U	ND(12)	/U
Acetone	µg/kg	240	ND(54)	/U	ND(58)	/U	ND(59)	/U
Benzene	µg/kg	5	ND(2.2)	/U	ND(2.3)	/U	ND(2.4)	/U
Carbon disulfide	µg/kg	200000	ND(11)	J-/U	ND(12)	J-/U	ND(12)	J-/U
Ethylbenzene	µg/kg	5000	ND(5.4)	/U	ND(5.8)	/U	ND(5.9)	/U
Methylene chloride	µg/kg	76	ND(5.4)	/U	ND(5.8)	/U	ND(5.9)	/U
Methyl-tert-butyl ether	µg/kg	23	ND(5.4)	/U	ND(5.8)	/U	ND(5.9)	/U
Toluene	µg/kg	1000	ND(5.4)	/U	ND(5.8)	U/J	ND(5.9)	U/J
Xylenes (m&p-)	µg/kg	5700	ND(5.4)	/U	ND(5.8)	/U	ND(5.9)	/U
Xylenes (o-)	µg/kg	5700	ND(5.4)	/U	ND(5.8)	/U	ND(5.9)	/U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		271SB100	271SB100	271SB100		
		Sample Date:		04/08/04	04/08/04	04/08/04		
		Sample Depth (feet):		3.5	5	7		
		Sample Number:		271SB100(3.5)	271SB100(5)	271SB100(7)		
		Lab Batch:		P404268	P404268	P404268		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	ND (7.2)	/U	ND (7.7)	/U	ND (7.8)	R/U
Acenaphthylene	µg/kg	67	ND (7.2)	/U	3.2	/J	ND (7.8)	R/U
Anthracene	µg/kg	450	ND (7.2)	/U	7.1	/J	ND (7.8)	J-/U
Benzo(a)anthracene	µg/kg	270	6.2	/J	38.		ND (7.8)	J-/U
Benzo(a)pyrene	µg/kg	27	4.5	/J	37.		ND (7.8)	J-/U
Benzo(b)fluoranthene	µg/kg	270	7.3		48.		ND (7.8)	J-/U
Benzo(b+k)fluoranthene, Total	µg/kg	270	9.5	/J	65.		ND (16)	J-/U
Benzo(g,h,i)perylene	µg/kg	250	2.9	/J	17.		ND (7.8)	J-/U
Benzo(k)fluoranthene	µg/kg	270	2.2	/J	17.		ND (7.8)	J-/U
Chrysene	µg/kg	670	6.3	/J	40.		ND (7.8)	J-/U
Dibenzo(a,h)anthracene	µg/kg	71	ND (7.2)	/U	4.3	/J	ND (7.8)	J-/U
Fluoranthene	µg/kg	1500	6.7	/J	65.		ND (7.8)	J-/U
Fluorene	µg/kg	280	ND (7.2)	/U	ND (7.7)	/U	ND (7.8)	R/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	2.1	/J	15.		ND (7.8)	J-/U
Naphthalene	µg/kg	300	12.		2.1	/J	ND (7.8)	R/U
Phenanthrene	µg/kg	610	13.		36.		ND (7.8)	J-/U
Pyrene	µg/kg	790	9.2		73.		ND (7.8)	J-/U
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>	<b>271SB100</b>	<b>271SB100</b>	<b>271SB100</b>				
		<b>Sample Date:</b>	<b>04/08/04</b>	<b>04/08/04</b>	<b>04/08/04</b>				
		<b>Sample Depth (feet):</b>	<b>3.5</b>	<b>5</b>	<b>7</b>				
		<b>Sample Number:</b>	<b>271SB100(3.5)</b>	<b>271SB100(5)</b>	<b>271SB100(7)</b>				
		<b>Lab Batch:</b>	<b>P404268</b>	<b>P404268</b>	<b>P404268</b>				
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT		
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT		
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT		
Chrysene	µg/kg	670	NT		NT		NT		
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT		
Fluoranthene	µg/kg	1500	NT		NT		NT		
Fluorene	µg/kg	280	NT		NT		NT		
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT		
Naphthalene	µg/kg	300	NT		NT		NT		
Phenanthrene	µg/kg	610	NT		NT		NT		
Pyrene	µg/kg	790	NT		NT		NT		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		271SB100	38SB100	38SB100		
		Sample Date:		04/08/04	04/07/04	05/12/04		
		Sample Depth (feet):		9.5	1	1		
		Sample Number:		271SB100(9.5)	38SB100(1)	38SB100(1)		
		Lab Batch:		P404268	P404235	P405251		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	5.1	/J	NT		ND(11)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	ND(12)	U/J	NT		82.	
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	ND(1200)	/U	NT	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND(5.8)	U/J	NT		17.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1200)	/U	NT	
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	4.1	/J	ND(12)	/U	NT	
2-Hexanone	µg/kg	--	ND(12)	/U	ND(12)	/U	NT	
Acetone	µg/kg	240	24.	/J	ND(61)	/U	NT	
Benzene	µg/kg	5	ND(2.3)	/U	ND(2.4)	/U	NT	
Carbon disulfide	µg/kg	200000	ND(12)	J-/U	ND(12)	J-/U	NT	
Ethylbenzene	µg/kg	5000	ND(5.8)	/U	ND(6.1)	/U	NT	
Methylene chloride	µg/kg	76	ND(5.8)	/U	ND(6.1)	/U	NT	
Methyl-tert-butyl ether	µg/kg	23	ND(5.8)	/U	ND(6.1)	/U	NT	
Toluene	µg/kg	1000	ND(5.8)	U/J	ND(6.1)	/U	NT	
Xylenes (m&p-)	µg/kg	5700	ND(5.8)	/U	ND(6.1)	/U	NT	
Xylenes (o-)	µg/kg	5700	ND(5.8)	/U	ND(6.1)	/U	NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		271SB100	38SB100	38SB100		
		Sample Date:		04/08/04	04/07/04	05/12/04		
		Sample Depth (feet):		9.5	1	1		
		Sample Number:		271SB100(9.5)	38SB100(1)	38SB100(1)		
		Lab Batch:		P404268	P404235	P405251		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	ND (7.6)	J-/U	ND (8)	/U	NT	
Acenaphthylene	µg/kg	67	ND (7.6)	J-/U	5.8	/J	NT	
Anthracene	µg/kg	450	ND (7.6)	J-/U	44.		NT	
Benzo(a)anthracene	µg/kg	270	ND (7.6)	J-/U	76.		NT	
Benzo(a)pyrene	µg/kg	27	ND (7.6)	J-/U	64.	J	NT	
Benzo(b)fluoranthene	µg/kg	270	ND (7.6)	J-/U	82.	J	NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	ND (15)	J-/U	110.	J	NT	
Benzo(g,h,i)perylene	µg/kg	250	ND (7.6)	J-/U	17.	J	NT	
Benzo(k)fluoranthene	µg/kg	270	ND (7.6)	J-/U	32.	J	NT	
Chrysene	µg/kg	670	ND (7.6)	J-/U	75.		NT	
Dibenzo(a,h)anthracene	µg/kg	71	ND (7.6)	J-/U	5.3	J/J	NT	
Fluoranthene	µg/kg	1500	ND (7.6)	J-/U	120.		NT	
Fluorene	µg/kg	280	ND (7.6)	J-/U	6.3	/J	NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	ND (7.6)	J-/U	17.	J	NT	
Naphthalene	µg/kg	300	ND (7.6)	J-/U	4.7	/J	NT	
Phenanthrene	µg/kg	610	ND (7.6)	J-/U	110.		NT	
Pyrene	µg/kg	790	ND (7.6)	J-/U	190.		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		271SB100		38SB100		38SB100	
			Sample Date:		04/08/04		04/07/04		05/12/04	
			Sample Depth (feet):		9.5		1		1	
			Sample Number:		271SB100(9.5)		38SB100(1)		38SB100(1)	
			Lab Batch:		P404268		P404235		P405251	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB100		38SB100		38SB100	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		10		10		3	
			Sample Number:		38SB100(10)		38SB100(10)		38SB100(3)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/kg	115	NT		ND(7.7)	/U	NT	
TPH Fuel Oil (C24-C36)			mg/kg	144	NT		37.		NT	
TPH Gasoline (C7-C12)			µg/kg	11600	ND(1200)	U/J	NT		ND(1100)	/U
TPH Unknown Diesel Hydrocarbon			mg/kg	115	NT		8.7		NT	
TPH Unknown Gasoline Hydrocarbon			µg/kg	11600	ND(1200)	/U	NT		ND(1100)	/U
8021										
Benzene			µg/kg	5	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (total)			µg/kg	5700	NT		NT		NT	
8082										
Aroclor 1016			µg/kg	33	NT		NT		NT	
8260										
2-Butanone			µg/kg	3800	3.5	/J	NT		ND(11)	/U
2-Hexanone			µg/kg	--	ND(12)	/U	NT		ND(11)	/U
Acetone			µg/kg	240	13.	/J	NT		ND(56)	/U
Benzene			µg/kg	5	ND(2.5)	/U	NT		ND(2.2)	/U
Carbon disulfide			µg/kg	200000	ND(12)	J-/U	NT		ND(11)	J-/U
Ethylbenzene			µg/kg	5000	ND(6.1)	/U	NT		ND(5.6)	/U
Methylene chloride			µg/kg	76	ND(6.1)	/U	NT		ND(5.6)	/U
Methyl-tert-butyl ether			µg/kg	23	ND(6.1)	/U	NT		ND(5.6)	/U
Toluene			µg/kg	1000	ND(6.1)	/U	NT		ND(5.6)	U/J
Xylenes (m&p-)			µg/kg	5700	ND(6.1)	/U	NT		ND(5.6)	/U
Xylenes (o-)			µg/kg	5700	ND(6.1)	/U	NT		ND(5.6)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		38SB100	38SB100	38SB100		
		Sample Date:		04/07/04	05/12/04	04/07/04		
		Sample Depth (feet):		10	10	3		
		Sample Number:		38SB100(10)	38SB100(10)	38SB100(3)		
		Lab Batch:		P404235	P405251	P404235		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		ND ( 7 . 4 )	/U
Acenaphthylene	µg/kg	67	NT		NT		ND ( 7 . 4 )	/U
Anthracene	µg/kg	450	NT		NT		ND ( 7 . 4 )	/U
Benzo(a)anthracene	µg/kg	270	NT		NT		11 .	
Benzo(a)pyrene	µg/kg	27	NT		NT		10 .	J
Benzo(b)fluoranthene	µg/kg	270	NT		NT		15 .	J
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		19 .	J
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		3 . 3	J/J
Benzo(k)fluoranthene	µg/kg	270	NT		NT		4 . 5	J/J
Chrysene	µg/kg	670	NT		NT		9 . 9	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		ND ( 7 . 4 )	J - /U
Fluoranthene	µg/kg	1500	NT		NT		16 .	
Fluorene	µg/kg	280	NT		NT		ND ( 7 . 4 )	/U
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		3 . 4	J/J
Naphthalene	µg/kg	300	NT		NT		ND ( 7 . 4 )	/U
Phenanthrene	µg/kg	610	NT		NT		5 . 2	/J
Pyrene	µg/kg	790	NT		NT		24 .	
8270SIM								
Acenaphthene	µg/kg	310	ND ( 8 . 1 )	/U	NT		NT	
Acenaphthylene	µg/kg	67	ND ( 8 . 1 )	/U	NT		NT	
Anthracene	µg/kg	450	ND ( 8 . 1 )	/U	NT		NT	
Benzo(a)anthracene	µg/kg	270	ND ( 8 . 1 )	/U	NT		NT	
Benzo(a)pyrene	µg/kg	27	ND ( 8 . 1 )	/U	NT		NT	
Benzo(b)fluoranthene	µg/kg	270	ND ( 8 . 1 )	/U	NT		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>	<b>38SB100</b>	<b>38SB100</b>	<b>38SB100</b>			<b>38SB100</b>	<b>38SB100</b>
		<b>Sample Date:</b>	<b>04/07/04</b>	<b>05/12/04</b>	<b>04/07/04</b>			<b>04/07/04</b>	<b>04/07/04</b>
		<b>Sample Depth (feet):</b>	<b>10</b>	<b>10</b>	<b>3</b>			<b>3</b>	<b>3</b>
		<b>Sample Number:</b>	<b>38SB100(10)</b>	<b>38SB100(10)</b>	<b>38SB100(3)</b>			<b>38SB100(3)</b>	<b>38SB100(3)</b>
		<b>Lab Batch:</b>	<b>P404235</b>	<b>P405251</b>	<b>P404235</b>			<b>P404235</b>	<b>P404235</b>
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value
Benzo(b+k)fluoranthene, Total	µg/kg	270	ND (16)	/U	NT		NT		NT
Benzo(g,h,i)perylene	µg/kg	250	ND (8.1)	/U	NT		NT		NT
Benzo(k)fluoranthene	µg/kg	270	ND (8.1)	/U	NT		NT		NT
Chrysene	µg/kg	670	ND (8.1)	/U	NT		NT		NT
Dibenzo(a,h)anthracene	µg/kg	71	ND (8.1)	/U	NT		NT		NT
Fluoranthene	µg/kg	1500	ND (8.1)	/U	NT		NT		NT
Fluorene	µg/kg	280	ND (8.1)	/U	NT		NT		NT
Indeno(1,2,3-cd)pyrene	µg/kg	260	ND (8.1)	/U	NT		NT		NT
Naphthalene	µg/kg	300	ND (8.1)	/U	NT		NT		NT
Phenanthrene	µg/kg	610	ND (8.1)	/U	NT		NT		NT
Pyrene	µg/kg	790	ND (8.1)	/U	NT		NT		NT

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	38SB100		38SB100		38SB100	
		Sample Date:	05/12/04		04/07/04		05/12/04	
		Sample Depth (feet):	3		5		5.5	
		Sample Number:	38SB100(3)		38SB100(5)		38SB100(5.5)R	
		Lab Batch:	P405251		P404235		P405251	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND ( 5 . 7 )	/U	NT		ND ( 6 . 3 )	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	15.		NT		98.	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		ND ( 1100 )	/U	NT	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	ND ( 5 . 7 )	U/J	NT		18.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		ND ( 1100 )	/U	NT	
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		ND ( 11 )	/U	NT	
2-Hexanone	µg/kg	--	NT		ND ( 11 )	/U	NT	
Acetone	µg/kg	240	NT		ND ( 57 )	/U	NT	
Benzene	µg/kg	5	NT		ND ( 2 . 3 )	/U	NT	
Carbon disulfide	µg/kg	200000	NT		ND ( 11 )	J- /U	NT	
Ethylbenzene	µg/kg	5000	NT		ND ( 5 . 7 )	/U	NT	
Methylene chloride	µg/kg	76	NT		ND ( 5 . 7 )	/U	NT	
Methyl-tert-butyl ether	µg/kg	23	NT		ND ( 5 . 7 )	/U	NT	
Toluene	µg/kg	1000	NT		ND ( 5 . 7 )	U/J	NT	
Xylenes (m&p-)	µg/kg	5700	NT		ND ( 5 . 7 )	/U	NT	
Xylenes (o-)	µg/kg	5700	NT		ND ( 5 . 7 )	/U	NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		38SB100	38SB100	38SB100		
		Sample Date:		05/12/04	04/07/04	05/12/04		
		Sample Depth (feet):		3	5	5.5		
		Sample Number:		38SB100(3)	38SB100(5)	38SB100(5.5)R		
		Lab Batch:		P405251	P404235	P405251		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		ND ( 7.5 )	/U	NT	
Acenaphthylene	µg/kg	67	NT		ND ( 7.5 )	/U	NT	
Anthracene	µg/kg	450	NT		ND ( 7.5 )	/U	NT	
Benzo(a)anthracene	µg/kg	270	NT		2.2	/J	NT	
Benzo(a)pyrene	µg/kg	27	NT		1.8	J/J	NT	
Benzo(b)fluoranthene	µg/kg	270	NT		2.5	J/J	NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		2.5	J/J	NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		ND ( 7.5 )	J - /U	NT	
Benzo(k)fluoranthene	µg/kg	270	NT		ND ( 7.5 )	J - /U	NT	
Chrysene	µg/kg	670	NT		1.5	/J	NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		ND ( 7.5 )	J - /U	NT	
Fluoranthene	µg/kg	1500	NT		2.2	/J	NT	
Fluorene	µg/kg	280	NT		ND ( 7.5 )	/U	NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		ND ( 7.5 )	J - /U	NT	
Naphthalene	µg/kg	300	NT		2.4	/J	NT	
Phenanthrene	µg/kg	610	NT		2.8	/J	NT	
Pyrene	µg/kg	790	NT		3.4	/J	NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>	<b>38SB100</b>	<b>38SB100</b>	<b>38SB100</b>				
		<b>Sample Date:</b>	<b>05/12/04</b>	<b>04/07/04</b>	<b>05/12/04</b>				
		<b>Sample Depth (feet):</b>	<b>3</b>	<b>5</b>	<b>5.5</b>				
		<b>Sample Number:</b>	<b>38SB100(3)</b>	<b>38SB100(5)</b>	<b>38SB100(5.5)R</b>				
		<b>Lab Batch:</b>	<b>P405251</b>	<b>P404235</b>	<b>P405251</b>				
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT		
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT		
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT		
Chrysene	µg/kg	670	NT		NT		NT		
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT		
Fluoranthene	µg/kg	1500	NT		NT		NT		
Fluorene	µg/kg	280	NT		NT		NT		
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT		
Naphthalene	µg/kg	300	NT		NT		NT		
Phenanthrene	µg/kg	610	NT		NT		NT		
Pyrene	µg/kg	790	NT		NT		NT		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101		38SB101		38SB101	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		0.5		0.5		10	
			Sample Number:		38SB101(0.5)		38SB101(0.5)		38SB101(10)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/kg	115	NT		2,600.		NT	
TPH Fuel Oil (C24-C36)			mg/kg	144	NT		4,300.		NT	
TPH Gasoline (C7-C12)			µg/kg	11600	ND(1100)	U/J	NT		ND(1100)	U/J
TPH Unknown Diesel Hydrocarbon			mg/kg	115	NT		ND(420)	/U	NT	
TPH Unknown Gasoline Hydrocarbon			µg/kg	11600	ND(1100)	/U	NT		ND(1100)	/U
8021										
Benzene			µg/kg	5	NT		NT		NT	
Ethylbenzene			µg/kg	5000	NT		NT		NT	
Toluene			µg/kg	1000	NT		NT		NT	
Xylenes (total)			µg/kg	5700	NT		NT		NT	
8082										
Aroclor 1016			µg/kg	33	NT		NT		NT	
8260										
2-Butanone			µg/kg	3800	ND(11)	/U	NT		3.8	/J
2-Hexanone			µg/kg	--	ND(11)	/U	NT		ND(11)	/U
Acetone			µg/kg	240	ND(54)	/U	NT		ND(57)	U/J
Benzene			µg/kg	5	ND(2.2)	/U	NT		ND(2.3)	/U
Carbon disulfide			µg/kg	200000	ND(11)	J-/U	NT		ND(11)	J-/U
Ethylbenzene			µg/kg	5000	ND(5.4)	/U	NT		ND(5.7)	/U
Methylene chloride			µg/kg	76	ND(5.4)	/U	NT		ND(5.7)	/U
Methyl-tert-butyl ether			µg/kg	23	ND(5.4)	/U	NT		ND(5.7)	/U
Toluene			µg/kg	1000	ND(5.4)	/U	NT		ND(5.7)	U/J
Xylenes (m&p-)			µg/kg	5700	ND(5.4)	/U	NT		ND(5.7)	/U
Xylenes (o-)			µg/kg	5700	ND(5.4)	/U	NT		ND(5.7)	/U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	38SB101	38SB101	38SB101
		Sample Date:	04/07/04	05/12/04	04/07/04
		Sample Depth (feet):	0.5	0.5	10
		Sample Number:	38SB101(0.5)	38SB101(0.5)	38SB101(10)
		Lab Batch:	P404235	P405251	P404235
Test Method/Analyte Name	Units	Cleanup Level	Value Qual	Value Qual	Value Qual
8270					
Acenaphthene	µg/kg	310	ND ( 28 ) /U	NT	7.6
Acenaphthylene	µg/kg	67	23. /J	NT	ND ( 7.5 ) /U
Anthracene	µg/kg	450	NT	NT	ND ( 7.5 ) /U
Benzo(a)anthracene	µg/kg	270	120.	NT	4.8 /J
Benzo(a)pyrene	µg/kg	27	180.	NT	4.6 /J
Benzo(b)fluoranthene	µg/kg	270	NT	NT	5.3 /J
Benzo(b+k)fluoranthene, Total	µg/kg	270	420.	NT	7.2 /J
Benzo(g,h,i)perylene	µg/kg	250	NT	NT	ND ( 7.5 ) /U
Benzo(k)fluoranthene	µg/kg	270	96.	NT	1.9 /J
Chrysene	µg/kg	670	180.	NT	3.9 /J
Dibenzo(a,h)anthracene	µg/kg	71	24. /J	NT	ND ( 7.5 ) /U
Fluoranthene	µg/kg	1500	190.	NT	6.7 /J
Fluorene	µg/kg	280	ND ( 28 ) /U	NT	ND ( 7.5 ) /U
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT	NT	ND ( 7.5 ) /U
Naphthalene	µg/kg	300	14. /J	NT	ND ( 7.5 ) /U
Phenanthrene	µg/kg	610	97.	NT	3.6 /J
Pyrene	µg/kg	790	NT	NT	11.
8270SIM					
Acenaphthene	µg/kg	310	NT	NT	NT
Acenaphthylene	µg/kg	67	NT	NT	NT
Anthracene	µg/kg	450	38.	NT	NT
Benzo(a)anthracene	µg/kg	270	NT	NT	NT
Benzo(a)pyrene	µg/kg	27	NT	NT	NT
Benzo(b)fluoranthene	µg/kg	270	330.	NT	NT

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101		38SB101		38SB101	
			Sample Date:		04/07/04		05/12/04		04/07/04	
			Sample Depth (feet):		0.5		0.5		10	
			Sample Number:		38SB101(0.5)		38SB101(0.5)		38SB101(10)	
			Lab Batch:		P404235		P405251		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	93.		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	83.		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	240.		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		38SB101	38SB101	38SB101		
		Sample Date:		05/12/04	04/07/04	05/12/04		
		Sample Depth (feet):		10	3	3		
		Sample Number:		38SB101(10)	38SB101(3)	38SB101(3)		
		Lab Batch:		P405251	P404235	P405251		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND ( 7.4 )	/U	NT		ND ( 5.6 )	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	28.		NT		290.	
TPH Gasoline (C7-C12)	µg/kg	11600	NT		ND ( 1400 )	/U	NT	
TPH Unknown Diesel Hydrocarbon	mg/kg	115	7.9		NT		27.	
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		ND ( 1400 )	/U	NT	
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		ND ( 14 )	/U	NT	
2-Hexanone	µg/kg	--	NT		ND ( 14 )	/U	NT	
Acetone	µg/kg	240	NT		ND ( 72 )	/U	NT	
Benzene	µg/kg	5	NT		ND ( 2.9 )	/U	NT	
Carbon disulfide	µg/kg	200000	NT		ND ( 14 )	J - /U	NT	
Ethylbenzene	µg/kg	5000	NT		ND ( 7.2 )	/U	NT	
Methylene chloride	µg/kg	76	NT		ND ( 7.2 )	/U	NT	
Methyl-tert-butyl ether	µg/kg	23	NT		ND ( 7.2 )	/U	NT	
Toluene	µg/kg	1000	NT		ND ( 7.2 )	U / J	NT	
Xylenes (m&p-)	µg/kg	5700	NT		ND ( 7.2 )	/U	NT	
Xylenes (o-)	µg/kg	5700	NT		ND ( 7.2 )	/U	NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		<b>Station Number:</b>		<b>38SB101</b>	<b>38SB101</b>		<b>38SB101</b>	
		<b>Sample Date:</b>		<b>05/12/04</b>	<b>04/07/04</b>		<b>05/12/04</b>	
		<b>Sample Depth (feet):</b>		<b>10</b>	<b>3</b>		<b>3</b>	
		<b>Sample Number:</b>		<b>38SB101(10)</b>	<b>38SB101(3)</b>		<b>38SB101(3)</b>	
		<b>Lab Batch:</b>		<b>P405251</b>	<b>P404235</b>		<b>P405251</b>	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270								
Acenaphthene	µg/kg	310	NT		NT		NT	
Acenaphthylene	µg/kg	67	NT		NT		NT	
Anthracene	µg/kg	450	NT		NT		NT	
Benzo(a)anthracene	µg/kg	270	NT		NT		NT	
Benzo(a)pyrene	µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene	µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene	µg/kg	270	NT		NT		NT	
Chrysene	µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT		NT	
Fluoranthene	µg/kg	1500	NT		NT		NT	
Fluorene	µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT		NT	
Naphthalene	µg/kg	300	NT		NT		NT	
Phenanthrene	µg/kg	610	NT		NT		NT	
Pyrene	µg/kg	790	NT		NT		NT	
8270SIM								
Acenaphthene	µg/kg	310	NT		ND ( 9 . 5 )	/U	NT	
Acenaphthylene	µg/kg	67	NT		<b>3 . 2</b>	<b>/J</b>	NT	
Anthracene	µg/kg	450	NT		<b>4 . 1</b>	<b>/J</b>	NT	
Benzo(a)anthracene	µg/kg	270	NT		<b>15 .</b>		NT	
Benzo(a)pyrene	µg/kg	27	NT		<b>17 .</b>		NT	
Benzo(b)fluoranthene	µg/kg	270	NT		<b>30 .</b>		NT	

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101		38SB101		38SB101	
			Sample Date:		05/12/04		04/07/04		05/12/04	
			Sample Depth (feet):		10		3		3	
			Sample Number:		38SB101(10)		38SB101(3)		38SB101(3)	
			Lab Batch:		P405251		P404235		P405251	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		38.		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		7.3	/J	NT	
Benzo(k)fluoranthene			µg/kg	270	NT		8.2	/J	NT	
Chrysene			µg/kg	670	NT		23.		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		ND(9.5)	/U	NT	
Fluoranthene			µg/kg	1500	NT		30.		NT	
Fluorene			µg/kg	280	NT		2.5	/J	NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		6.9	/J	NT	
Naphthalene			µg/kg	300	NT		7.8	/J	NT	
Phenanthrene			µg/kg	610	NT		24.		NT	
Pyrene			µg/kg	790	NT		37.		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		38SB101	38SB101	38SB102
		Sample Date:		04/07/04	05/12/04	04/06/04
		Sample Depth (feet):		5.5	5.5	1
		Sample Number:		38SB101(5.5)	38SB101(5.5)	38SB102(1.0)
		Lab Batch:		P404235	P405251	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
8015 Modified						
TPH Diesel (C12-C24)	mg/kg	115	NT		ND(5.9) /U	ND(23) /U
TPH Fuel Oil (C24-C36)	mg/kg	144	NT		2.5 /J	650.
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	NT	ND(1100) U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	NT		ND(5.9) U/J	340.
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	NT	ND(1100) /U
8021						
Benzene	µg/kg	5	NT		NT	NT
Ethylbenzene	µg/kg	5000	NT		NT	NT
Toluene	µg/kg	1000	NT		NT	NT
Xylenes (total)	µg/kg	5700	NT		NT	NT
8082						
Aroclor 1016	µg/kg	33	NT		NT	NT
8260						
2-Butanone	µg/kg	3800	6.1	/J	NT	20. J+
2-Hexanone	µg/kg	--	ND(12)	/U	NT	ND(11) /U
Acetone	µg/kg	240	ND(59)	U/J	NT	ND(110) U
Benzene	µg/kg	5	ND(2.4)	/U	NT	ND(2.3) /U
Carbon disulfide	µg/kg	200000	ND(12)	J-/U	NT	ND(11) J-/U
Ethylbenzene	µg/kg	5000	ND(5.9)	/U	NT	ND(5.7) /U
Methylene chloride	µg/kg	76	ND(5.9)	/U	NT	ND(5.7) /U
Methyl-tert-butyl ether	µg/kg	23	ND(5.9)	/U	NT	ND(5.7) /U
Toluene	µg/kg	1000	ND(5.9)	U/J	NT	ND(5.7) /U
Xylenes (m&p-)	µg/kg	5700	ND(5.9)	/U	NT	ND(5.7) /U
Xylenes (o-)	µg/kg	5700	ND(5.9)	/U	NT	ND(5.7) /U

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		38SB101	38SB101	38SB102
		Sample Date:		04/07/04	05/12/04	04/06/04
		Sample Depth (feet):		5.5	5.5	1
		Sample Number:		38SB101(5.5)	38SB101(5.5)	38SB102(1.0)
		Lab Batch:		P404235	P405251	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
8270						
Acenaphthene	µg/kg	310	2.4	/J	NT	NT
Acenaphthylene	µg/kg	67	11.		NT	25. /J
Anthracene	µg/kg	450	27.		NT	1,000.
Benzo(a)anthracene	µg/kg	270	73.		NT	NT
Benzo(a)pyrene	µg/kg	27	87.		NT	380.
Benzo(b)fluoranthene	µg/kg	270	100.		NT	1,200.
Benzo(b+k)fluoranthene, Total	µg/kg	270	140.		NT	NT
Benzo(g,h,i)perylene	µg/kg	250	29.		NT	110.
Benzo(k)fluoranthene	µg/kg	270	32.		NT	400.
Chrysene	µg/kg	670	83.		NT	1,100.
Dibenzo(a,h)anthracene	µg/kg	71	6.7	/J	NT	ND (45) /U
Fluoranthene	µg/kg	1500	110.		NT	3,100.
Fluorene	µg/kg	280	7.0	/J	NT	NT
Indeno(1,2,3-cd)pyrene	µg/kg	260	26.		NT	130.
Naphthalene	µg/kg	300	4.7	/J	NT	NT
Phenanthrene	µg/kg	610	85.		NT	NT
Pyrene	µg/kg	790	160.		NT	2,900.
8270SIM						
Acenaphthene	µg/kg	310	NT		NT	25. /J
Acenaphthylene	µg/kg	67	NT		NT	NT
Anthracene	µg/kg	450	NT		NT	NT
Benzo(a)anthracene	µg/kg	270	NT		NT	550.
Benzo(a)pyrene	µg/kg	27	NT		NT	NT
Benzo(b)fluoranthene	µg/kg	270	NT		NT	NT

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101		38SB101		38SB102	
			Sample Date:		04/07/04		05/12/04		04/06/04	
			Sample Depth (feet):		5.5		5.5		1	
			Sample Number:		38SB101(5.5)		38SB101(5.5)		38SB102(1.0)	
			Lab Batch:		P404235		P405251		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		1,600.	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		59.	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		19. /J	
Phenanthrene			µg/kg	610	NT		NT		1,400.	
Pyrene			µg/kg	790	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
 Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB102		38SB102		38SB102	
			Sample Date:		04/06/04		05/12/04		04/06/04	
			Sample Depth (feet):		10		10		3.5	
			Sample Number:		38SB102(10)		38SB102(10)		38SB102(3.5)	
			Lab Batch:		P404234		P405251		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)	mg/kg	115	NT		ND(8.2)	/U	ND(6.6)	/U		
TPH Fuel Oil (C24-C36)	mg/kg	144	NT		120.		49.			
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1400)	U/J	NT		ND(1300)	/U		
TPH Unknown Diesel Hydrocarbon	mg/kg	115	NT		21.		22.			
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1400)	/U	NT		ND(1300)	/U		
8021										
Benzene	µg/kg	5	NT		NT		NT			
Ethylbenzene	µg/kg	5000	NT		NT		NT			
Toluene	µg/kg	1000	NT		NT		NT			
Xylenes (total)	µg/kg	5700	NT		NT		NT			
8082										
Aroclor 1016	µg/kg	33	NT		NT		NT			
8260										
2-Butanone	µg/kg	3800	6.6	/J	NT		7.3	/J		
2-Hexanone	µg/kg	--	ND(14)	/U	NT		ND(13)	/U		
Acetone	µg/kg	240	ND(72)	U/J	NT		ND(66)	U/J		
Benzene	µg/kg	5	ND(2.9)	/U	NT		ND(2.6)	/U		
Carbon disulfide	µg/kg	200000	ND(14)	J-/U	NT		ND(13)	J-/U		
Ethylbenzene	µg/kg	5000	ND(7.2)	/U	NT		ND(6.6)	/U		
Methylene chloride	µg/kg	76	5.7	/J	NT		ND(6.6)	/U		
Methyl-tert-butyl ether	µg/kg	23	ND(7.2)	/U	NT		ND(6.6)	/U		
Toluene	µg/kg	1000	ND(7.2)	U/J	NT		ND(6.6)	U/J		
Xylenes (m&p-)	µg/kg	5700	ND(7.2)	/U	NT		ND(6.6)	/U		
Xylenes (o-)	µg/kg	5700	ND(7.2)	/U	NT		ND(6.6)	/U		

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		38SB102	38SB102	38SB102
		Sample Date:		04/06/04	05/12/04	04/06/04
		Sample Depth (feet):		10	10	3.5
		Sample Number:		38SB102(10)	38SB102(10)	38SB102(3.5)
		Lab Batch:		P404234	P405251	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
8270						
Acenaphthene	µg/kg	310	NT		NT	NT
Acenaphthylene	µg/kg	67	NT		NT	NT
Anthracene	µg/kg	450	NT		NT	NT
Benzo(a)anthracene	µg/kg	270	NT		NT	NT
Benzo(a)pyrene	µg/kg	27	NT		NT	NT
Benzo(b)fluoranthene	µg/kg	270	NT		NT	NT
Benzo(b+k)fluoranthene, Total	µg/kg	270	NT		NT	NT
Benzo(g,h,i)perylene	µg/kg	250	NT		NT	NT
Benzo(k)fluoranthene	µg/kg	270	NT		NT	NT
Chrysene	µg/kg	670	NT		NT	NT
Dibenzo(a,h)anthracene	µg/kg	71	NT		NT	NT
Fluoranthene	µg/kg	1500	NT		NT	NT
Fluorene	µg/kg	280	NT		NT	NT
Indeno(1,2,3-cd)pyrene	µg/kg	260	NT		NT	NT
Naphthalene	µg/kg	300	NT		NT	NT
Phenanthrene	µg/kg	610	NT		NT	NT
Pyrene	µg/kg	790	NT		NT	NT
8270SIM						
Acenaphthene	µg/kg	310	ND ( 9 . 6 )	/U	NT	ND ( 8 . 7 ) /U
Acenaphthylene	µg/kg	67	ND ( 9 . 6 )	/U	NT	3 . 3 /J
Anthracene	µg/kg	450	ND ( 9 . 6 )	/U	NT	5 . 4 /J
Benzo(a)anthracene	µg/kg	270	ND ( 9 . 6 )	/U	NT	23 .
Benzo(a)pyrene	µg/kg	27	ND ( 9 . 6 )	/U	NT	28 .
Benzo(b)fluoranthene	µg/kg	270	ND ( 9 . 6 )	/U	NT	34 .

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Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB102		38SB102		38SB102	
			Sample Date:		04/06/04		05/12/04		04/06/04	
			Sample Depth (feet):		10		10		3.5	
			Sample Number:		38SB102(10)		38SB102(10)		38SB102(3.5)	
			Lab Batch:		P404234		P405251		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	ND ( 19 )	/U	NT		45.	
Benzo(g,h,i)perylene			µg/kg	250	ND ( 9.6 )	/U	NT		18.	
Benzo(k)fluoranthene			µg/kg	270	ND ( 9.6 )	/U	NT		11.	
Chrysene			µg/kg	670	ND ( 9.6 )	/U	NT		27.	
Dibenzo(a,h)anthracene			µg/kg	71	ND ( 9.6 )	/U	NT		ND ( 8.7 )	/U
Fluoranthene			µg/kg	1500	1.8	/J	NT		37.	
Fluorene			µg/kg	280	ND ( 9.6 )	/U	NT		ND ( 8.7 )	/U
Indeno(1,2,3-cd)pyrene			µg/kg	260	ND ( 9.6 )	/U	NT		15.	
Naphthalene			µg/kg	300	ND ( 9.6 )	/U	NT		ND ( 8.7 )	/U
Phenanthrene			µg/kg	610	ND ( 9.6 )	/U	NT		20.	
Pyrene			µg/kg	790	2.0	/J	NT		49.	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	38SB102	38SB103	38SB103		
		Sample Date:	04/06/04	04/06/04	04/06/04		
		Sample Depth (feet):	5.5	1.5	10		
		Sample Number:	38SB102(5.5)	38SB103(1.5)	38SB103(10)		
		Lab Batch:	P404234	P404234	P404234		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value Qual
8015 Modified							
TPH Diesel (C12-C24)	mg/kg	115	ND(23)	/U	87.	J	NT
TPH Fuel Oil (C24-C36)	mg/kg	144	1,300.		650.	J	NT
TPH Gasoline (C7-C12)	µg/kg	11600	ND(1200)	U/J	82.	J-/J	ND(1600) /U
TPH Unknown Diesel Hydrocarbon	mg/kg	115	140.		87.	J	NT
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	ND(1200)	/U	ND(1000)	/U	ND(1600) /U
8021							
Benzene	µg/kg	5	NT		NT		NT
Ethylbenzene	µg/kg	5000	NT		NT		NT
Toluene	µg/kg	1000	NT		NT		NT
Xylenes (total)	µg/kg	5700	NT		NT		NT
8082							
Aroclor 1016	µg/kg	33	NT		NT		NT
8260							
2-Butanone	µg/kg	3800	9.4	J+/J	ND(10)	/U	9.7 /J
2-Hexanone	µg/kg	--	ND(12)	/U	ND(10)	/U	ND(16) /U
Acetone	µg/kg	240	ND(58)	U/J	ND(52)	/U	ND(80) U/J
Benzene	µg/kg	5	ND(2.3)	/U	ND(2.1)	/U	ND(3.2) /U
Carbon disulfide	µg/kg	200000	ND(12)	J-/U	ND(10)	J-/U	4.2 J-/J
Ethylbenzene	µg/kg	5000	ND(5.8)	/U	ND(5.2)	/U	ND(8) /U
Methylene chloride	µg/kg	76	0.97	J+/J	ND(5.2)	/U	20.
Methyl-tert-butyl ether	µg/kg	23	ND(5.8)	/U	ND(5.2)	/U	ND(8) /U
Toluene	µg/kg	1000	ND(5.8)	U/J	ND(5.2)	/U	ND(8) U/J
Xylenes (m&p-)	µg/kg	5700	ND(5.8)	/U	ND(5.2)	/U	ND(8) /U
Xylenes (o-)	µg/kg	5700	ND(5.8)	/U	1.6	/J	ND(8) /U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB102		38SB103		38SB103	
			Sample Date:		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		5.5		1.5		10	
			Sample Number:		38SB102(5.5)		38SB103(1.5)		38SB103(10)	
			Lab Batch:		P404234		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene			µg/kg	310	NT		NT		ND(11)	/U
Acenaphthylene			µg/kg	67	NT		NT		ND(11)	/U
Anthracene			µg/kg	450	NT		NT		ND(11)	/U
Benzo(a)anthracene			µg/kg	270	NT		NT		ND(11)	/U
Benzo(a)pyrene			µg/kg	27	NT		NT		ND(11)	/U
Benzo(b)fluoranthene			µg/kg	270	NT		NT		ND(11)	/U
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		ND(21)	/U
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		ND(11)	/U
Benzo(k)fluoranthene			µg/kg	270	NT		NT		ND(11)	/U
Chrysene			µg/kg	670	NT		NT		ND(11)	/U
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		ND(11)	/U
Fluoranthene			µg/kg	1500	NT		NT		ND(11)	/U
Fluorene			µg/kg	280	NT		NT		ND(11)	/U
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		ND(11)	/U
Naphthalene			µg/kg	300	NT		NT		ND(11)	/U
Phenanthrene			µg/kg	610	NT		NT		2.9	/J
Pyrene			µg/kg	790	NT		NT		ND(11)	/U
8270SIM										
Acenaphthene			µg/kg	310	ND(15)	/U	ND(6.8)	/U	NT	
Acenaphthylene			µg/kg	67	ND(15)	/U	5.0	/J	NT	
Anthracene			µg/kg	450	11.	/J	7.7		NT	
Benzo(a)anthracene			µg/kg	270	55.		26.		NT	
Benzo(a)pyrene			µg/kg	27	150.		25.		NT	
Benzo(b)fluoranthene			µg/kg	270	160.		29.		NT	

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB102		38SB103		38SB103	
			Sample Date:		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		5.5		1.5		10	
			Sample Number:		38SB102(5.5)		38SB103(1.5)		38SB103(10)	
			Lab Batch:		P404234		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	190.		39.		NT	
Benzo(g,h,i)perylene			µg/kg	250	28.		14.		NT	
Benzo(k)fluoranthene			µg/kg	270	27.		9.9		NT	
Chrysene			µg/kg	670	110.		28.		NT	
Dibenzo(a,h)anthracene			µg/kg	71	ND (15)	/U	ND ( 6 . 8 )	/U	NT	
Fluoranthene			µg/kg	1500	82.		43.		NT	
Fluorene			µg/kg	280	4.7	/J	1.8	/J	NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	13.	/J	12.		NT	
Naphthalene			µg/kg	300	4.6	/J	ND ( 6 . 8 )	/U	NT	
Phenanthrene			µg/kg	610	49.		31.		NT	
Pyrene			µg/kg	790	150.		58.		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 38SB103		38SB103		38SB103	
			Sample Date: 05/12/04		04/06/04		04/06/04	
			Sample Depth (feet): 10		5		7.5	
			Sample Number: 38SB103(10)		38SB103(5)		38SB103(7.5)	
			Lab Batch: P405251		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/kg	115	ND(9)	/U	ND(5.9)	J-/U	ND(6)	/U
TPH Fuel Oil (C24-C36)	mg/kg	144	68.		27.	J	11.	/J
TPH Gasoline (C7-C12)	µg/kg	11600	NT		ND(1200)	U/J	ND(1200)	U/J
TPH Unknown Diesel Hydrocarbon	mg/kg	115	18.		8.9	J	ND(6)	U/J
TPH Unknown Gasoline Hydrocarbon	µg/kg	11600	NT		ND(1200)	/U	ND(1200)	/U
8021								
Benzene	µg/kg	5	NT		NT		NT	
Ethylbenzene	µg/kg	5000	NT		NT		NT	
Toluene	µg/kg	1000	NT		NT		NT	
Xylenes (total)	µg/kg	5700	NT		NT		NT	
8082								
Aroclor 1016	µg/kg	33	NT		NT		NT	
8260								
2-Butanone	µg/kg	3800	NT		14.		9.3	/J
2-Hexanone	µg/kg	--	NT		ND(12)	/U	ND(12)	/U
Acetone	µg/kg	240	NT		ND(66)	U	ND(62)	U
Benzene	µg/kg	5	NT		ND(2.3)	/U	ND(2.4)	/U
Carbon disulfide	µg/kg	200000	NT		ND(12)	J-/U	ND(12)	J-/U
Ethylbenzene	µg/kg	5000	NT		ND(5.9)	/U	ND(6)	/U
Methylene chloride	µg/kg	76	NT		0.97	/J	1.1	/J
Methyl-tert-butyl ether	µg/kg	23	NT		ND(5.9)	/U	ND(6)	/U
Toluene	µg/kg	1000	NT		ND(5.9)	U/J	ND(6)	U/J
Xylenes (m&p-)	µg/kg	5700	NT		ND(5.9)	/U	ND(6)	/U
Xylenes (o-)	µg/kg	5700	NT		ND(5.9)	/U	ND(6)	/U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB103		38SB103		38SB103	
			Sample Date:		05/12/04		04/06/04		04/06/04	
			Sample Depth (feet):		10		5		7.5	
			Sample Number:		38SB103(10)		38SB103(5)		38SB103(7.5)	
			Lab Batch:		P405251		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270										
Acenaphthene			µg/kg	310	NT		NT		NT	
Acenaphthylene			µg/kg	67	NT		NT		NT	
Anthracene			µg/kg	450	NT		NT		NT	
Benzo(a)anthracene			µg/kg	270	NT		NT		NT	
Benzo(a)pyrene			µg/kg	27	NT		NT		NT	
Benzo(b)fluoranthene			µg/kg	270	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		NT		NT	
Benzo(g,h,i)perylene			µg/kg	250	NT		NT		NT	
Benzo(k)fluoranthene			µg/kg	270	NT		NT		NT	
Chrysene			µg/kg	670	NT		NT		NT	
Dibenzo(a,h)anthracene			µg/kg	71	NT		NT		NT	
Fluoranthene			µg/kg	1500	NT		NT		NT	
Fluorene			µg/kg	280	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		NT		NT	
Naphthalene			µg/kg	300	NT		NT		NT	
Phenanthrene			µg/kg	610	NT		NT		NT	
Pyrene			µg/kg	790	NT		NT		NT	
8270SIM										
Acenaphthene			µg/kg	310	NT		ND ( 7.7 )	/U	ND ( 7.9 )	/U
Acenaphthylene			µg/kg	67	NT		ND ( 7.7 )	/U	ND ( 7.9 )	/U
Anthracene			µg/kg	450	NT		ND ( 7.7 )	/U	ND ( 7.9 )	/U
Benzo(a)anthracene			µg/kg	270	NT		8.5		1.7	/J
Benzo(a)pyrene			µg/kg	27	NT		10.		ND ( 7.9 )	/U
Benzo(b)fluoranthene			µg/kg	270	NT		14.		ND ( 7.9 )	/U

MACTEC, Inc.



Table 2. Organic Compounds Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB103		38SB103		38SB103	
			Sample Date:		05/12/04		04/06/04		04/06/04	
			Sample Depth (feet):		10		5		7.5	
			Sample Number:		38SB103(10)		38SB103(5)		38SB103(7.5)	
			Lab Batch:		P405251		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b+k)flouranthene, Total			µg/kg	270	NT		19.		ND(16)	/U
Benzo(g,h,i)perylene			µg/kg	250	NT		6.9	/J	ND(7.9)	/U
Benzo(k)fluoranthene			µg/kg	270	NT		4.6	/J	ND(7.9)	/U
Chrysene			µg/kg	670	NT		9.5		ND(7.9)	/U
Dibenzo(a,h)anthracene			µg/kg	71	NT		ND(7.7)	/U	ND(7.9)	/U
Fluoranthene			µg/kg	1500	NT		12.		ND(7.9)	/U
Fluorene			µg/kg	280	NT		ND(7.7)	/U	ND(7.9)	/U
Indeno(1,2,3-cd)pyrene			µg/kg	260	NT		5.7	/J	ND(7.9)	/U
Naphthalene			µg/kg	300	NT		ND(7.7)	/U	ND(7.9)	/U
Phenanthrene			µg/kg	610	NT		7.9		1.7	/J
Pyrene			µg/kg	790	NT		13.		1.5	/J

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207HP104		207SB105		208SB100		208SB100	
			Sample Date:		04/08/04		04/08/04		04/07/04		04/07/04	
			Sample Depth (feet):		3		3.5		10		6	
			Sample Number:		207SB104(3)		207SB105(3.5)		208SB100(10)		208SB100(6)	
			Lab Batch:		P404268		P404268		P404235		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	NT		NT		1.6		5.7			
Cadmium	mg/kg	0.8	NT		NT		0.12		0.34			
Chromium	mg/kg	95	NT		NT		30. J+		34. J+			
Lead	mg/kg	50	8.9 J		320. J		1.8 J-		69. J-			
Nickel	mg/kg	83	NT		NT		26. J		37. J			
Zinc	mg/kg	43	NT		NT		18. J-		79. J-			

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		208SB100		228SB101		228SB102		230SB100	
			Sample Date:		04/07/04		04/06/04		04/06/04		04/05/04	
			Sample Depth (feet):		7.5		4.5		7.5		3	
			Sample Number:		208SB100(7.5)		228SB101(4.5)		228SB102(7.5)		230SB100(3)	
			Lab Batch:		P404235		P404234		P404234		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	3.2		1.9		3.7		NT			
Cadmium	mg/kg	0.8	0.27		0.18		0.30		NT			
Chromium	mg/kg	95	45.	J+	26.		62.		NT			
Lead	mg/kg	50	22.	J-	2.7	J	7.4	J	66.	J+		
Nickel	mg/kg	83	36.	J	22.		35.		NT			
Zinc	mg/kg	43	44.	J-	12.		29.		NT			

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		230SB100		230SB100		230SB100		230SB101	
			Sample Date:		04/05/04		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		5.5		7.5		9.5		10	
			Sample Number:		230SB100(5.5)		230SB100(7.5)		230SB100(9.5)		230SB101(10)	
			Lab Batch:		P404204		P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	NT		NT		NT		NT		NT	
Cadmium	mg/kg	0.8	NT		NT		NT		NT		NT	
Chromium	mg/kg	95	NT		NT		NT		NT		NT	
Lead	mg/kg	50	<b>5.6</b>	<b>J+</b>	<b>11.</b>	<b>J+</b>	<b>4.7</b>	<b>J+</b>	<b>12.</b>	<b>J+</b>		
Nickel	mg/kg	83	NT		NT		NT		NT		NT	
Zinc	mg/kg	43	NT		NT		NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		230SB101		230SB101		230SB101		231SB102	
			Sample Date:		04/05/04		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		3		5.5		7.5		10	
			Sample Number:		230SB101(3)		230SB101(5.5)		230SB101(7.5)		231SB102(10)	
			Lab Batch:		P404204		P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	NT		NT		NT		NT		3.1	J
Cadmium	mg/kg	0.8	NT		NT		NT		NT		0.26	J+
Chromium	mg/kg	95	NT		NT		NT		NT		61.	J-
Lead	mg/kg	50	52.	J+	5.4	J+	3.6	J+	5.6	J+	33.	J+
Nickel	mg/kg	83	NT		NT		NT		NT		38.	J+
Zinc	mg/kg	43	NT		NT		NT		NT		33.	J+

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB102		231SB102		231SB102		231SB103	
			Sample Date:		04/05/04		04/05/04		04/05/04		04/05/04	
			Sample Depth (feet):		3		5		7		10	
			Sample Number:		231SB102(3)		231SB102(5)		231SB102(7)		231SB103(10)	
			Lab Batch:		P404204		P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	3.6	J	3.1	J	2.7	J	3.1	J		
Cadmium	mg/kg	0.8	0.33	J+	0.20	J+	0.26	J+	0.30	J+		
Chromium	mg/kg	95	55.	J-	55.	J-	80.	J-	67.	J-		
Lead	mg/kg	50	79.	J+	22.	J+	13.	J+	4.5	J+		
Nickel	mg/kg	83	34.	J+	35.	J+	50.	J+	41.	J+		
Zinc	mg/kg	43	95.	J+	170.	J+	37.	J+	31.	J+		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram

ND = Not Detected at the specific reporting level in parentheses

NT = Not Tested

SQLRpt11/13/2005

MACTEC, Inc.



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB103		231SB103		231SB103		231SB104	
			Sample Date:		04/05/04		04/05/04		04/05/04		04/07/04	
			Sample Depth (feet):		3		5		7		10	
			Sample Number:		231SB103(3)		231SB103(5)		231SB103(7)		231SB104(10)	
			Lab Batch:		P404204		P404204		P404204		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	<b>4.4</b>	J	3.1	J	2.7	J			NT	
Cadmium	mg/kg	0.8	<b>0.26</b>	J+	0.42	J+	0.24	J+			NT	
Chromium	mg/kg	95	32.	J-	36.	J-	63.	J-			NT	
Lead	mg/kg	50	8.3	J+	<b>69.</b>	J+	24.	J+			6.7	J-
Nickel	mg/kg	83	40.	J+	38.	J+	43.	J+			35.	J
Zinc	mg/kg	43	40.	J+	<b>83.</b>	J+	42.	J+			30.	J-

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB104		231SB104		231SB104		231SB105	
			Sample Date:		04/07/04		04/07/04		04/07/04		04/07/04	
			Sample Depth (feet):		3		5		7		10	
			Sample Number:		231SB104(3)		231SB104(5)		231SB104(7)		231SB105(10)	
			Lab Batch:		P404235		P404235		P404235		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	NT		NT		NT		NT		NT	
Cadmium	mg/kg	0.8	NT		NT		NT		NT		NT	
Chromium	mg/kg	95	NT		NT		NT		NT		NT	
Lead	mg/kg	50	110.	J-	300.	J-	9.4	J-	4.2	J-		
Nickel	mg/kg	83	21.	J	76.	J	53.	J	17.	J		
Zinc	mg/kg	43	59.	J-	310.	J-	31.	J-	15.	J-		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB105		231SB105		231SB105		231SB116	
			Sample Date:		04/07/04		04/07/04		04/07/04		04/05/04	
			Sample Depth (feet):		3		5.5		7		10	
			Sample Number:		231SB105(3)		231SB105(5.5)		231SB105(7.0)		231SB116(10)	
			Lab Batch:		P404235		P404235		P404235		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	NT		NT		NT		NT		3.2	J
Cadmium	mg/kg	0.8	NT		NT		NT		NT		0.35	J+
Chromium	mg/kg	95	NT		NT		NT		NT		68.	J-
Lead	mg/kg	50	39.	J-	110.	J-	70.	J-			4.8	J+
Nickel	mg/kg	83	30.		32.	J	43.	J			45.	J+
Zinc	mg/kg	43	85.	J-	47.	J-	73.	J-			32.	J+

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB116		231SB116		231SB116		271SB100	
			Sample Date:		04/05/04		04/05/04		04/05/04		04/08/04	
			Sample Depth (feet):		3		5		7		2	
			Sample Number:		231SB116(3)		231SB116(5)		231SB116(7)		271SB100(2)	
			Lab Batch:		P404204		P404204		P404204		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	1.9	J	1.8	J	2.8	J	2.6			
Cadmium	mg/kg	0.8	0.26	J+	0.26	J+	0.30	J+	0.38			
Chromium	mg/kg	95	69.	J-	65.	J-	71.	J-	37.			
Lead	mg/kg	50	7.1	J+	16.	J+	4.9	J+	56.	J		
Nickel	mg/kg	83	57.	J+	32.	J+	42.	J+	41.			
Zinc	mg/kg	43	31.	J+	38.	J+	28.	J+	120.			

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		271SB100		271SB100		271SB100		271SB100	
			Sample Date:		04/08/04		04/08/04		04/08/04		04/08/04	
			Sample Depth (feet):		3.5		5		7		9.5	
			Sample Number:		271SB100(3.5)		271SB100(5)		271SB100(7)		271SB100(9.5)	
			Lab Batch:		P404268		P404268		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	2.7		3.8		1.7		2.5			
Cadmium	mg/kg	0.8	0.15		0.27		0.12		0.17			
Chromium	mg/kg	95	31.		62.		25.		43.			
Lead	mg/kg	50	43.	J	45.	J	1.9	J	2.7	J		
Nickel	mg/kg	83	25.		48.		23.		34.			
Zinc	mg/kg	43	30.		38.		12.		20.			

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB100		38SB100		38SB100		38SB100	
			Sample Date:		04/07/04		04/07/04		04/07/04		04/07/04	
			Sample Depth (feet):		1		10		3		5	
			Sample Number:		38SB100(1)		38SB100(10)		38SB100(3)		38SB100(5)	
			Lab Batch:		P404235		P404235		P404235		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	<b>4.2</b>		2.8		<b>4.5</b>		2.8			
Cadmium	mg/kg	0.8	<b>0.22</b>		0.30		<b>0.20</b>		0.19			
Chromium	mg/kg	95	33.	J+	79.	J+	34.	J+	35.	J+		
Lead	mg/kg	50	11.	J-	3.9	J-	5.9	J-	6.3	J-		
Nickel	mg/kg	83	37.	J	51.	J	38.	J	31.	J		
Zinc	mg/kg	43	31.	J-	24.	J-	24.	J-	22.	J-		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101		38SB101		38SB101		38SB101	
			Sample Date:		04/07/04		04/07/04		04/07/04		04/07/04	
			Sample Depth (feet):		0.5		10		3		5.5	
			Sample Number:		38SB101(0.5)		38SB101(10)		38SB101(3)		38SB101(5.5)	
			Lab Batch:		P404235		P404235		P404235		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	3.6		2.1		3.9		3.3			
Cadmium	mg/kg	0.8	0.75		0.14		0.39		0.32			
Chromium	mg/kg	95	23.	J+	37.	J+	89.	J+	88.	J+		
Lead	mg/kg	50	140.	J-	1.9	J-	56.	J-	3.8	J-		
Nickel	mg/kg	83	31.	J	30.	J	51.	J	47.	J		
Zinc	mg/kg	43	85.	J-	13.	J-	49.	J-	25.	J-		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB102		38SB102		38SB102		38SB102	
			Sample Date:		04/06/04		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		1		10		3.5		5.5	
			Sample Number:		38SB102(1.0)		38SB102(10)		38SB102(3.5)		38SB102(5.5)	
			Lab Batch:		P404234		P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	2.9		2.6		11.		6.6			
Cadmium	mg/kg	0.8	0.66		0.46		0.38		0.36			
Chromium	mg/kg	95	28.		98.		68.		62.			
Lead	mg/kg	50	120.	J	36.	J	42.	J	37.	J		
Nickel	mg/kg	83	34.		100.		40.		40.			
Zinc	mg/kg	43	83.		56.		37.		33.			

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 3. Metals Detected in Soil  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB103		38SB103		38SB103		38SB103	
			Sample Date:		04/06/04		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		1.5		10		5		7.5	
			Sample Number:		38SB103(1.5)		38SB103(10)		38SB103(5)		38SB103(7.5)	
			Lab Batch:		P404234		P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	mg/kg	3.9	2.6		7.5		2.5		2.6			
Cadmium	mg/kg	0.8	0.14		0.38		0.17		0.22			
Chromium	mg/kg	95	30.		60.		37.		75.			
Lead	mg/kg	50	9.2	J	6.2	J	11.	J	2.4	J		
Nickel	mg/kg	83	25.		55.		28.		51.			
Zinc	mg/kg	43	22.		45.		18.		19.			

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 207HP100		207HP101		207HP102	
			Sample Date: 04/08/04		04/08/04		04/07/04	
			Sample Depth (feet): 12		12		12	
			Sample Number: 207HP100(12)		207HP101(12)		207HP102(12)	
			Lab Batch: P404268		P404268		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.052)	/U	ND(0.071)	/U	ND(0.049)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.26)	/U	ND(0.36)	/U	ND(0.25)	/U
TPH Gasoline (C7-C12)	µg/l	443	ND(50)	U/J	ND(50)	U/J	ND(50)	U/J
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.56		0.96		0.19	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Xylenes (total)	µg/l	130	NT		NT		NT	
8260								
1,1-Dichloroethane	µg/l	5	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
1,2-Dichlorobenzene	µg/l	14	ND(100)	/U	ND(5)	/U	ND(5)	/U
1,2-Dichloroethane	µg/l	0.38	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
2-Butanone	µg/l	--	ND(500)	/U	ND(25)	/U	ND(25)	/U
Acetone	µg/l	700	ND(1000)	/U	ND(50)	/U	11.	/J
Benzene	µg/l	1	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
Chlorobenzene	µg/l	70	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
Ethylbenzene	µg/l	43	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
Methyl-tert-butyl ether	µg/l	13	1,400.		0.81	/J	ND(2.5)	/U
Toluene	µg/l	150	17.	/J	ND(2.5)	/U	0.97	/J
Trichloroethene	µg/l	2.7	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U
Vinyl chloride	µg/l	0.5	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207HP100		207HP101		207HP102	
			Sample Date:		04/08/04		04/08/04		04/07/04	
			Sample Depth (feet):		12		12		12	
			Sample Number:		207HP100(12)		207HP101(12)		207HP102(12)	
			Lab Batch:		P404268		P404268		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U	ND(2.5)	/U
Xylenes (o-)	µg/l	130	ND(50)	/U	ND(2.5)	/U	ND(2.5)	/U	ND(2.5)	/U
8270										
Acenaphthene	µg/l	1,200	NT		NT		NT		NT	
Acenaphthylene	µg/l	--	NT		NT		NT		NT	
Anthracene	µg/l	770	NT		NT		NT		NT	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		NT		NT	
Benzo(g,h,i)perylene	µg/l	--	NT		NT		NT		NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		NT		NT	
Chrysene	µg/l	0.0044	NT		NT		NT		NT	
Fluoranthene	µg/l	300	NT		NT		NT		NT	
Fluorene	µg/l	300	NT		NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		NT		NT	
Naphthalene	µg/l	300	NT		NT		NT		NT	
Phenanthrene	µg/l	230	NT		NT		NT		NT	
Pyrene	µg/l	230	NT		NT		NT		NT	
8270SIM										
Acenaphthene	µg/l	1,200	NT		NT		NT		NT	
Acenaphthylene	µg/l	--	NT		NT		NT		NT	
Anthracene	µg/l	770	NT		NT		NT		NT	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		NT		NT	

MACTEC, Inc.



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207HP100		207HP101		207HP102	
			Sample Date:		04/08/04		04/08/04		04/07/04	
			Sample Depth (feet):		12		12		12	
			Sample Number:		207HP100(12)		207HP101(12)		207HP102(12)	
			Lab Batch:		P404268		P404268		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene			µg/l	0.0044	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/l	0.0044	NT		NT		NT	
Benzo(g,h,i)perylene			µg/l	--	NT		NT		NT	
Benzo(k)fluoranthene			µg/l	0.0044	NT		NT		NT	
Chrysene			µg/l	0.0044	NT		NT		NT	
Fluoranthene			µg/l	300	NT		NT		NT	
Fluorene			µg/l	300	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/l	0.0044	NT		NT		NT	
Naphthalene			µg/l	300	NT		NT		NT	
Phenanthrene			µg/l	230	NT		NT		NT	
Pyrene			µg/l	230	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 207HP103		207SB104		207SB105	
			Sample Date: 04/07/04		04/08/04		04/08/04	
			Sample Depth (feet): 10		12		16	
			Sample Number: 207HP103(10)		207SB104(12)		207SB105(16)	
			Lab Batch: P404235		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.054)	/U	ND(0.05)	/U	ND(0.048)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.27)	/U	ND(0.25)	/U	ND(0.24)	/U
TPH Gasoline (C7-C12)	µg/l	443	ND(64)	U	ND(50)	U/J	2,100.	
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.2		0.14		0.3	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Xylenes (total)	µg/l	130	NT		NT		NT	
8260								
1,1-Dichloroethane	µg/l	5	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
1,2-Dichlorobenzene	µg/l	14	ND(1)	/U	ND(1)	/U	ND(10)	/U
1,2-Dichloroethane	µg/l	0.38	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
2-Butanone	µg/l	--	ND(5)	/U	ND(5)	/U	ND(50)	/U
Acetone	µg/l	700	3.3	/J	ND(10)	U/J	ND(100)	/U
Benzene	µg/l	1	0.098	/J	ND(0.5)	/U	3.4	/J
Chlorobenzene	µg/l	70	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
Ethylbenzene	µg/l	43	ND(0.5)	/U	ND(0.5)	/U	3.0	/J
Methyl-tert-butyl ether	µg/l	13	37.		44.		7.1	
Toluene	µg/l	150	0.15	/J	0.11	/J	1.4	/J
Trichloroethene	µg/l	2.7	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
Vinyl chloride	µg/l	0.5	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			<b>Station Number:</b>		<b>207HP103</b>		<b>207SB104</b>		<b>207SB105</b>	
			<b>Sample Date:</b>		<b>04/07/04</b>		<b>04/08/04</b>		<b>04/08/04</b>	
			<b>Sample Depth (feet):</b>		<b>10</b>		<b>12</b>		<b>16</b>	
			<b>Sample Number:</b>		<b>207HP103(10)</b>		<b>207SB104(12)</b>		<b>207SB105(16)</b>	
			<b>Lab Batch:</b>		<b>P404235</b>		<b>P404268</b>		<b>P404268</b>	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
Xylenes (o-)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U	ND(5)	/U
8270										
Acenaphthene	µg/l	1,200	NT		NT		NT		NT	
Acenaphthylene	µg/l	--	NT		NT		NT		NT	
Anthracene	µg/l	770	NT		NT		NT		NT	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		NT		NT	
Benzo(g,h,i)perylene	µg/l	--	NT		NT		NT		NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		NT		NT	
Chrysene	µg/l	0.0044	NT		NT		NT		NT	
Fluoranthene	µg/l	300	NT		NT		NT		NT	
Fluorene	µg/l	300	NT		NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		NT		NT	
Naphthalene	µg/l	300	NT		NT		NT		NT	
Phenanthrene	µg/l	230	NT		NT		NT		NT	
Pyrene	µg/l	230	NT		NT		NT		NT	
8270SIM										
Acenaphthene	µg/l	1,200	NT		NT		NT		NT	
Acenaphthylene	µg/l	--	NT		NT		NT		NT	
Anthracene	µg/l	770	NT		NT		NT		NT	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		NT		NT	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207HP103		207SB104		207SB105	
			Sample Date:		04/07/04		04/08/04		04/08/04	
			Sample Depth (feet):		10		12		16	
			Sample Number:		207HP103(10)		207SB104(12)		207SB105(16)	
			Lab Batch:		P404235		P404268		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene			µg/l	0.0044	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/l	0.0044	NT		NT		NT	
Benzo(g,h,i)perylene			µg/l	--	NT		NT		NT	
Benzo(k)fluoranthene			µg/l	0.0044	NT		NT		NT	
Chrysene			µg/l	0.0044	NT		NT		NT	
Fluoranthene			µg/l	300	NT		NT		NT	
Fluorene			µg/l	300	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/l	0.0044	NT		NT		NT	
Naphthalene			µg/l	300	NT		NT		NT	
Phenanthrene			µg/l	230	NT		NT		NT	
Pyrene			µg/l	230	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 208SB100		228SB101		228SB102	
			Sample Date: 04/08/04		04/06/04		04/06/04	
			Sample Depth (feet): 12		16		16	
			Sample Number: 208SB100(12)		228SB101(16)		228SB102(16)	
			Lab Batch: P404268		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.079)	/U	ND(0.081)	/U	ND(0.062)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.4)	/U	ND(0.4)	/U	2.4	
TPH Gasoline (C7-C12)	µg/l	443	NT		970.		ND(5000)	/U
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.16		0.92		5.9	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	NT		ND(50)	/U	8,700.	
8021								
Benzene	µg/l	1	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Xylenes (total)	µg/l	130	NT		NT		NT	
8260								
1,1-Dichloroethane	µg/l	5	NT		ND(2.5)	/U	ND(50)	/U
1,2-Dichlorobenzene	µg/l	14	NT		ND(5)	/U	17.	/J
1,2-Dichloroethane	µg/l	0.38	NT		ND(2.5)	/U	ND(50)	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	NT		ND(2.5)	/U	ND(50)	/U
2-Butanone	µg/l	--	NT		ND(25)	/U	ND(500)	/U
Acetone	µg/l	700	NT		ND(50)	/U	ND(1000)	/U
Benzene	µg/l	1	NT		ND(2.5)	/U	ND(50)	/U
Chlorobenzene	µg/l	70	NT		ND(2.5)	/U	ND(50)	/U
Ethylbenzene	µg/l	43	NT		ND(2.5)	/U	ND(50)	/U
Methyl-tert-butyl ether	µg/l	13	NT		ND(2.5)	/U	ND(50)	/U
Toluene	µg/l	150	NT		1.4	/J	33.	/J
Trichloroethene	µg/l	2.7	NT		ND(2.5)	/U	ND(50)	/U
Vinyl chloride	µg/l	0.5	NT		ND(2.5)	/U	ND(50)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		208SB100	228SB101	228SB102
		Sample Date:		04/08/04	04/06/04	04/06/04
		Sample Depth (feet):		12	16	16
		Sample Number:		208SB100(12)	228SB101(16)	228SB102(16)
		Lab Batch:		P404268	P404234	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	NT		3.6	30. /J
Xylenes (o-)	µg/l	130	NT		3.3	ND(50) /U
8270						
Acenaphthene	µg/l	1,200	0.053	/J	NT	NT
Acenaphthylene	µg/l	--	0.26		NT	NT
Anthracene	µg/l	770	0.67		NT	NT
Benzo(a)anthracene	µg/l	0.0044	1.3		NT	NT
Benzo(a)pyrene	µg/l	0.0044	1.3		NT	NT
Benzo(b)fluoranthene	µg/l	0.0044	1.5		NT	NT
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	2.0		NT	NT
Benzo(g,h,i)perylene	µg/l	--	0.39		NT	NT
Benzo(k)fluoranthene	µg/l	0.0044	0.51		NT	NT
Chrysene	µg/l	0.0044	1.5		NT	NT
Fluoranthene	µg/l	300	2.3		NT	NT
Fluorene	µg/l	300	0.19	/J	NT	NT
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	0.38		NT	NT
Naphthalene	µg/l	300	ND(0.24)	U/J	NT	NT
Phenanthrene	µg/l	230	3.0		NT	NT
Pyrene	µg/l	230	3.1		NT	NT
8270SIM						
Acenaphthene	µg/l	1,200	NT		NT	NT
Acenaphthylene	µg/l	--	NT		NT	NT
Anthracene	µg/l	770	NT		NT	NT
Benzo(a)anthracene	µg/l	0.0044	NT		NT	NT
Benzo(a)pyrene	µg/l	0.0044	NT		NT	NT

MACTEC, Inc.



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			<b>Station Number:</b>	<b>208SB100</b>	<b>228SB101</b>	<b>228SB102</b>
			<b>Sample Date:</b>	<b>04/08/04</b>	<b>04/06/04</b>	<b>04/06/04</b>
			<b>Sample Depth (feet):</b>	<b>12</b>	<b>16</b>	<b>16</b>
			<b>Sample Number:</b>	<b>208SB100(12)</b>	<b>228SB101(16)</b>	<b>228SB102(16)</b>
			<b>Lab Batch:</b>	<b>P404268</b>	<b>P404234</b>	<b>P404234</b>
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT	
Benzo(g,h,i)perylene	µg/l	--	NT		NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT	
Chrysene	µg/l	0.0044	NT		NT	
Fluoranthene	µg/l	300	NT		NT	
Fluorene	µg/l	300	NT		NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT	
Naphthalene	µg/l	300	NT		NT	
Phenanthrene	µg/l	230	NT		NT	
Pyrene	µg/l	230	NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB100		231SB101		231SB102	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 10		10.5		11	
			Sample Number: 231SB100(10)		231SB101(10.5)		231SB102(11)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.082)	/U	ND(0.078)	/U	ND(0.053)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.41)	/U	ND(0.39)	/U	ND(0.27)	/U
TPH Gasoline (C7-C12)	µg/l	443	320.		ND(50)	U/J	NT	
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.55		1.9		0.43	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	320.		ND(50)	/U	NT	
8021								
Benzene	µg/l	1	ND(0.5)	/U	0.15	/J	NT	
Ethylbenzene	µg/l	43	0.47	/J	ND(0.5)	/U	NT	
Toluene	µg/l	150	0.19	/J	0.16	/J	NT	
Xylenes (total)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	NT	
8260								
1,1-Dichloroethane	µg/l	5	NT		NT		ND(0.5)	/U
1,2-Dichlorobenzene	µg/l	14	NT		NT		ND(1)	/U
1,2-Dichloroethane	µg/l	0.38	NT		NT		ND(0.5)	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	NT		NT		ND(0.5)	/U
2-Butanone	µg/l	--	NT		NT		ND(5)	/U
Acetone	µg/l	700	NT		NT		2.4	J-/J
Benzene	µg/l	1	NT		NT		ND(0.5)	/U
Chlorobenzene	µg/l	70	NT		NT		ND(0.5)	/U
Ethylbenzene	µg/l	43	NT		NT		ND(0.5)	/U
Methyl-tert-butyl ether	µg/l	13	NT		NT		ND(0.5)	/U
Toluene	µg/l	150	NT		NT		0.26	/J
Trichloroethene	µg/l	2.7	NT		NT		ND(0.5)	/U
Vinyl chloride	µg/l	0.5	NT		NT		ND(0.5)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB100		231SB101		231SB102	
			Sample Date: 04/05/04		04/05/04		04/05/04	
			Sample Depth (feet): 10		10.5		11	
			Sample Number: 231SB100(10)		231SB101(10.5)		231SB102(11)	
			Lab Batch: P404204		P404204		P404204	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	NT		NT		ND(0.5)	/U
Xylenes (o-)	µg/l	130	NT		NT		ND(0.5)	/U
8270								
Acenaphthene	µg/l	1,200	NT		NT		NT	
Acenaphthylene	µg/l	--	NT		NT		NT	
Anthracene	µg/l	770	NT		NT		NT	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		NT	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		NT	
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		NT	
Benzo(g,h,i)perylene	µg/l	--	NT		NT		NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		NT	
Chrysene	µg/l	0.0044	NT		NT		NT	
Fluoranthene	µg/l	300	NT		NT		NT	
Fluorene	µg/l	300	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		NT	
Naphthalene	µg/l	300	NT		NT		NT	
Phenanthrene	µg/l	230	NT		NT		NT	
Pyrene	µg/l	230	NT		NT		NT	
8270SIM								
Acenaphthene	µg/l	1,200	NT		NT		NT	
Acenaphthylene	µg/l	--	NT		NT		NT	
Anthracene	µg/l	770	NT		NT		NT	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		NT	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			<b>Station Number:</b>	<b>231SB100</b>		<b>231SB101</b>		<b>231SB102</b>
			<b>Sample Date:</b>	<b>04/05/04</b>		<b>04/05/04</b>		<b>04/05/04</b>
			<b>Sample Depth (feet):</b>	<b>10</b>		<b>10.5</b>		<b>11</b>
			<b>Sample Number:</b>	<b>231SB100(10)</b>		<b>231SB101(10.5)</b>		<b>231SB102(11)</b>
			<b>Lab Batch:</b>	<b>P404204</b>		<b>P404204</b>		<b>P404204</b>
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		NT	
Benzo(g,h,i)perylene	µg/l	--	NT		NT		NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		NT	
Chrysene	µg/l	0.0044	NT		NT		NT	
Fluoranthene	µg/l	300	NT		NT		NT	
Fluorene	µg/l	300	NT		NT		NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		NT	
Naphthalene	µg/l	300	NT		NT		NT	
Phenanthrene	µg/l	230	NT		NT		NT	
Pyrene	µg/l	230	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB102		231SB103		231SB104	
			Sample Date:		04/08/04		04/05/04		04/07/04	
			Sample Depth (feet):		12		10.5		12	
			Sample Number:		231SB102(12)		231SB103(10.5)		231SB104(12)	
			Lab Batch:		P404268		P404204		P404235	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified										
TPH Diesel (C12-C24)			mg/l	0.443	NT		0.94		ND(0.057)	/U
TPH Fuel Oil (C24-C36)			mg/l	0.443	NT		ND(0.28)	/U	ND(0.28)	/U
TPH Gasoline (C7-C12)			µg/l	443	ND(50)	U/J	ND(50)	U/J	840.	
TPH Unknown Diesel Hydrocarbon			mg/l	0.443	NT		0.94		1.9	
TPH Unknown Gasoline Hydrocarbon			µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021										
Benzene			µg/l	1	NT		NT		NT	
Ethylbenzene			µg/l	43	NT		NT		NT	
Toluene			µg/l	150	NT		NT		NT	
Xylenes (total)			µg/l	130	NT		NT		NT	
8260										
1,1-Dichloroethane			µg/l	5	NT		ND(0.5)	/U	ND(0.5)	/U
1,2-Dichlorobenzene			µg/l	14	NT		ND(1)	/U	ND(1)	/U
1,2-Dichloroethane			µg/l	0.38	NT		ND(0.5)	/U	ND(0.5)	/U
1,2-Dichloroethene (cis & trans)			µg/l	6	NT		ND(0.5)	/U	ND(0.5)	/U
2-Butanone			µg/l	--	NT		ND(5)	/U	2.2	/J
Acetone			µg/l	700	NT		ND(10)	R/U	9.9	J-/J
Benzene			µg/l	1	NT		ND(0.5)	/U	49.	
Chlorobenzene			µg/l	70	NT		ND(0.5)	/U	0.15	/J
Ethylbenzene			µg/l	43	NT		ND(0.5)	/U	1.5	
Methyl-tert-butyl ether			µg/l	13	NT		ND(0.5)	/U	ND(0.5)	/U
Toluene			µg/l	150	NT		0.13	/J	3.1	
Trichloroethene			µg/l	2.7	NT		ND(0.5)	/U	ND(0.5)	/U
Vinyl chloride			µg/l	0.5	NT		ND(0.5)	/U	ND(0.5)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB102		231SB103		231SB104	
			Sample Date: 04/08/04		04/05/04		04/07/04	
			Sample Depth (feet): 12		10.5		12	
			Sample Number: 231SB102(12)		231SB103(10.5)		231SB104(12)	
			Lab Batch: P404268		P404204		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	NT		ND(0.5)	/U	5.5	
Xylenes (o-)	µg/l	130	NT		ND(0.5)	/U	0.67	
8270								
Acenaphthene	µg/l	1,200	NT		ND(0.19)	/U	NT	
Acenaphthylene	µg/l	--	NT		ND(0.19)	/U	NT	
Anthracene	µg/l	770	NT		ND(0.19)	/U	NT	
Benzo(a)anthracene	µg/l	0.0044	NT		ND(0.19)	/U	NT	
Benzo(a)pyrene	µg/l	0.0044	NT		ND(0.19)	/U	NT	
Benzo(b)fluoranthene	µg/l	0.0044	NT		0.038	/J	NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		ND(0.38)	/U	NT	
Benzo(g,h,i)perylene	µg/l	--	NT		ND(0.19)	/U	NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		ND(0.19)	/U	NT	
Chrysene	µg/l	0.0044	NT		ND(0.19)	/U	NT	
Fluoranthene	µg/l	300	NT		0.032	/J	NT	
Fluorene	µg/l	300	NT		ND(0.19)	/U	NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		ND(0.19)	/U	NT	
Naphthalene	µg/l	300	NT		ND(0.19)	/U	NT	
Phenanthrene	µg/l	230	NT		ND(0.19)	/U	NT	
Pyrene	µg/l	230	NT		0.043	J- /J	NT	
8270SIM								
Acenaphthene	µg/l	1,200	NT		NT		0.47	
Acenaphthylene	µg/l	--	NT		NT		ND(0.21)	/U
Anthracene	µg/l	770	NT		NT		0.10	/J
Benzo(a)anthracene	µg/l	0.0044	NT		NT		ND(0.21)	/U
Benzo(a)pyrene	µg/l	0.0044	NT		NT		ND(0.21)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB102		231SB103		231SB104	
			Sample Date: 04/08/04		04/05/04		04/07/04	
			Sample Depth (feet): 12		10.5		12	
			Sample Number: 231SB102(12)		231SB103(10.5)		231SB104(12)	
			Lab Batch: P404268		P404204		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		ND(0.21)	/U
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		ND(0.42)	/U
Benzo(g,h,i)perylene	µg/l	--	NT		NT		ND(0.21)	/U
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		ND(0.21)	/U
Chrysene	µg/l	0.0044	NT		NT		ND(0.21)	/U
Fluoranthene	µg/l	300	NT		NT		<b>0.037</b>	<b>/J</b>
Fluorene	µg/l	300	NT		NT		<b>0.082</b>	<b>/J</b>
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		ND(0.21)	/U
Naphthalene	µg/l	300	NT		NT		<b>0.23</b>	
Phenanthrene	µg/l	230	NT		NT		<b>1.6</b>	
Pyrene	µg/l	230	NT		NT		ND(0.21)	/U

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB104		231SB105		231SB106	
			Sample Date: 04/07/04		04/07/04		04/08/04	
			Sample Depth (feet): 12		12		10.5	
			Sample Number: DUP040704-3		231SB105(12)		231SB106(10.5)	
			Lab Batch: P404235		P404235		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.059)	/U	1.7	J-	ND(0.051)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.29)	/U	1.1		ND(0.25)	/U
TPH Gasoline (C7-C12)	µg/l	443	790.		1,200.		ND(50)	U/J
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	1.4		1.7		0.065	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	NT		NT		ND(0.5)	/U
Ethylbenzene	µg/l	43	NT		NT		ND(0.5)	/U
Toluene	µg/l	150	NT		NT		ND(0.5)	/U
Xylenes (total)	µg/l	130	NT		NT		ND(0.5)	/U
8260								
1,1-Dichloroethane	µg/l	5	ND(1.2)	/U	ND(0.5)	/U	NT	
1,2-Dichlorobenzene	µg/l	14	ND(2.5)	/U	0.13	/J	NT	
1,2-Dichloroethane	µg/l	0.38	0.86	/J	ND(0.5)	/U	NT	
1,2-Dichloroethene (cis & trans)	µg/l	6	ND(1.2)	/U	ND(0.5)	/U	NT	
2-Butanone	µg/l	--	ND(12)	/U	ND(5)	/U	NT	
Acetone	µg/l	700	5.4	/J	7.0	J-/J	NT	
Benzene	µg/l	1	41.		0.67		NT	
Chlorobenzene	µg/l	70	ND(1.2)	/U	ND(0.5)	/U	NT	
Ethylbenzene	µg/l	43	0.99	/J	0.31	/J	NT	
Methyl-tert-butyl ether	µg/l	13	ND(1.2)	/U	ND(0.5)	/U	NT	
Toluene	µg/l	150	2.6		0.41	/J	NT	
Trichloroethene	µg/l	2.7	ND(1.2)	/U	ND(0.5)	/U	NT	
Vinyl chloride	µg/l	0.5	ND(1.2)	/U	ND(0.5)	/U	NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:		231SB104	231SB105	231SB106
		Sample Date:		04/07/04	04/07/04	04/08/04
		Sample Depth (feet):		12	12	10.5
		Sample Number:		DUP040704-3	231SB105(12)	231SB106(10.5)
		Lab Batch:		P404235	P404235	P404268
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	3.8		0.84	NT
Xylenes (o-)	µg/l	130	0.52	/J	0.29	/J
8270						
Acenaphthene	µg/l	1,200	0.44	J-	NT	NT
Acenaphthylene	µg/l	--	ND (0.25)	J-/U	NT	NT
Anthracene	µg/l	770	0.07	J-/J	NT	NT
Benzo(a)anthracene	µg/l	0.0044	0.094	J-/J	NT	NT
Benzo(a)pyrene	µg/l	0.0044	0.11	J-/J	NT	NT
Benzo(b)fluoranthene	µg/l	0.0044	0.19	J-/J	NT	NT
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	0.23	J-/J	NT	NT
Benzo(g,h,i)perylene	µg/l	--	0.081	J-/J	NT	NT
Benzo(k)fluoranthene	µg/l	0.0044	ND (0.25)	J-/U	NT	NT
Chrysene	µg/l	0.0044	0.11	J-/J	NT	NT
Fluoranthene	µg/l	300	0.13	J-/J	NT	NT
Fluorene	µg/l	300	0.12	J-/J	NT	NT
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	ND (0.25)	J-/U	NT	NT
Naphthalene	µg/l	300	3.6	J-	NT	NT
Phenanthrene	µg/l	230	0.73	J-	NT	NT
Pyrene	µg/l	230	0.16	J-/J	NT	NT
8270SIM						
Acenaphthene	µg/l	1,200	NT		ND (0.19)	/U
Acenaphthylene	µg/l	--	NT		ND (0.19)	/U
Anthracene	µg/l	770	NT		ND (0.19)	/U
Benzo(a)anthracene	µg/l	0.0044	NT		ND (0.19)	/U
Benzo(a)pyrene	µg/l	0.0044	NT		ND (0.19)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB104		231SB105		231SB106	
			Sample Date: 04/07/04		04/07/04		04/08/04	
			Sample Depth (feet): 12		12		10.5	
			Sample Number: DUP040704-3		231SB105(12)		231SB106(10.5)	
			Lab Batch: P404235		P404235		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene	µg/l	0.0044	NT		ND (0.19)	/U	NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		ND (0.38)	/U	NT	
Benzo(g,h,i)perylene	µg/l	--	NT		ND (0.19)	/U	NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		ND (0.19)	/U	NT	
Chrysene	µg/l	0.0044	NT		ND (0.19)	/U	NT	
Fluoranthene	µg/l	300	NT		ND (0.19)	/U	NT	
Fluorene	µg/l	300	NT		<b>0.067</b>	/J	NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		ND (0.19)	/U	NT	
Naphthalene	µg/l	300	NT		ND (0.19)	/U	NT	
Phenanthrene	µg/l	230	NT		<b>0.046</b>	/J	NT	
Pyrene	µg/l	230	NT		<b>0.031</b>	/J	NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB108		231SB109		231SB110	
			Sample Date: 04/05/04		04/06/04		04/08/04	
			Sample Depth (feet): 14.5		14.5		12	
			Sample Number: 231SB108(14.5)		231SB109(14.5)		231SB110(12)	
			Lab Batch: P404204		P404234		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.057)	/U	ND(0.074)	/U	ND(0.048)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.28)	/U	ND(0.37)	/U	ND(0.24)	/U
TPH Gasoline (C7-C12)	µg/l	443	2,400.		ND(50)	U	ND(50)	/U
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.83		0.17		0.085	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(250)	/U	ND(50)	/U	200.	
8021								
Benzene	µg/l	1	330.		ND(0.5)	/U	ND(0.5)	/U
Ethylbenzene	µg/l	43	50.		ND(0.5)	/U	ND(0.5)	/U
Toluene	µg/l	150	6.9		ND(0.5)	/U	ND(0.5)	/U
Xylenes (total)	µg/l	130	30.		0.49	/J	ND(0.5)	/U
8260								
1,1-Dichloroethane	µg/l	5	NT		NT		NT	
1,2-Dichlorobenzene	µg/l	14	NT		NT		NT	
1,2-Dichloroethane	µg/l	0.38	NT		NT		NT	
1,2-Dichloroethene (cis & trans)	µg/l	6	NT		NT		NT	
2-Butanone	µg/l	--	NT		NT		NT	
Acetone	µg/l	700	NT		NT		NT	
Benzene	µg/l	1	NT		NT		NT	
Chlorobenzene	µg/l	70	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Methyl-tert-butyl ether	µg/l	13	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Trichloroethene	µg/l	2.7	NT		NT		NT	
Vinyl chloride	µg/l	0.5	NT		NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB108		231SB109		231SB110	
			Sample Date: 04/05/04		04/06/04		04/08/04	
			Sample Depth (feet): 14.5		14.5		12	
			Sample Number: 231SB108(14.5)		231SB109(14.5)		231SB110(12)	
			Lab Batch: P404204		P404234		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270	Xylenes (m&p-)	µg/l	130	NT	NT		NT	
	Xylenes (o-)	µg/l	130	NT	NT		NT	
	Acenaphthene	µg/l	1,200	NT	NT		NT	
	Acenaphthylene	µg/l	--	NT	NT		NT	
	Anthracene	µg/l	770	NT	NT		NT	
	Benzo(a)anthracene	µg/l	0.0044	NT	NT		NT	
	Benzo(a)pyrene	µg/l	0.0044	NT	NT		NT	
	Benzo(b)fluoranthene	µg/l	0.0044	NT	NT		NT	
	Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT	NT		NT	
	Benzo(g,h,i)perylene	µg/l	--	NT	NT		NT	
	Benzo(k)fluoranthene	µg/l	0.0044	NT	NT		NT	
	Chrysene	µg/l	0.0044	NT	NT		NT	
	Fluoranthene	µg/l	300	NT	NT		NT	
	Fluorene	µg/l	300	NT	NT		NT	
	Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT	NT		NT	
	Naphthalene	µg/l	300	NT	NT		NT	
	Phenanthrene	µg/l	230	NT	NT		NT	
	Pyrene	µg/l	230	NT	NT		NT	
8270SIM	Acenaphthene	µg/l	1,200	NT	NT		NT	
	Acenaphthylene	µg/l	--	NT	NT		NT	
	Anthracene	µg/l	770	NT	NT		NT	
	Benzo(a)anthracene	µg/l	0.0044	NT	NT		NT	
	Benzo(a)pyrene	µg/l	0.0044	NT	NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB108		231SB109		231SB110	
			Sample Date:		04/05/04		04/06/04		04/08/04	
			Sample Depth (feet):		14.5		14.5		12	
			Sample Number:		231SB108(14.5)		231SB109(14.5)		231SB110(12)	
			Lab Batch:		P404204		P404234		P404268	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene			µg/l	0.0044	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/l	0.0044	NT		NT		NT	
Benzo(g,h,i)perylene			µg/l	--	NT		NT		NT	
Benzo(k)fluoranthene			µg/l	0.0044	NT		NT		NT	
Chrysene			µg/l	0.0044	NT		NT		NT	
Fluoranthene			µg/l	300	NT		NT		NT	
Fluorene			µg/l	300	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/l	0.0044	NT		NT		NT	
Naphthalene			µg/l	300	NT		NT		NT	
Phenanthrene			µg/l	230	NT		NT		NT	
Pyrene			µg/l	230	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB111		231SB112		231SB113	
			Sample Date: 04/06/04		04/06/04		04/06/04	
			Sample Depth (feet): 16		10.5		15	
			Sample Number: 231SB111(16)		231SB112(10.5)		231SB113(15)	
			Lab Batch: P404234		P404234		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.068)	/U	ND(0.06)	/U	ND(0.078)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.34)	/U	ND(0.3)	/U	ND(0.39)	/U
TPH Gasoline (C7-C12)	µg/l	443	ND(130)	U	ND(50)	U/J	ND(50)	U/J
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.14		0.15		0.19	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	ND(0.77)	U	ND(0.5)	/U	ND(0.5)	/U
Ethylbenzene	µg/l	43	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Toluene	µg/l	150	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Xylenes (total)	µg/l	130	0.40	/J	ND(0.5)	/U	ND(0.5)	/U
8260								
1,1-Dichloroethane	µg/l	5	NT		NT		NT	
1,2-Dichlorobenzene	µg/l	14	NT		NT		NT	
1,2-Dichloroethane	µg/l	0.38	NT		NT		NT	
1,2-Dichloroethene (cis & trans)	µg/l	6	NT		NT		NT	
2-Butanone	µg/l	--	NT		NT		NT	
Acetone	µg/l	700	NT		NT		NT	
Benzene	µg/l	1	NT		NT		NT	
Chlorobenzene	µg/l	70	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Methyl-tert-butyl ether	µg/l	13	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Trichloroethene	µg/l	2.7	NT		NT		NT	
Vinyl chloride	µg/l	0.5	NT		NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:	231SB111	231SB112	231SB113				
			Sample Date:	04/06/04	04/06/04	04/06/04				
			Sample Depth (feet):	16	10.5	15				
			Sample Number:	231SB111(16)	231SB112(10.5)	231SB113(15)				
			Lab Batch:	P404234	P404234	P404234				
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270	Xylenes (m&p-)	µg/l	130	NT			NT		NT	
	Xylenes (o-)	µg/l	130	NT			NT		NT	
	Acenaphthene	µg/l	1,200	NT			NT		NT	
	Acenaphthylene	µg/l	--	NT			NT		NT	
	Anthracene	µg/l	770	NT			NT		NT	
	Benzo(a)anthracene	µg/l	0.0044	NT			NT		NT	
	Benzo(a)pyrene	µg/l	0.0044	NT			NT		NT	
	Benzo(b)fluoranthene	µg/l	0.0044	NT			NT		NT	
	Benzo(b+k)flouranthene, Total	µg/l	0.0044	NT			NT		NT	
	Benzo(g,h,i)perylene	µg/l	--	NT			NT		NT	
	Benzo(k)fluoranthene	µg/l	0.0044	NT			NT		NT	
	Chrysene	µg/l	0.0044	NT			NT		NT	
	Fluoranthene	µg/l	300	NT			NT		NT	
	Fluorene	µg/l	300	NT			NT		NT	
	Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT			NT		NT	
	Naphthalene	µg/l	300	NT			NT		NT	
	Phenanthrene	µg/l	230	NT			NT		NT	
	Pyrene	µg/l	230	NT			NT		NT	
8270SIM	Acenaphthene	µg/l	1,200	NT			NT		NT	
	Acenaphthylene	µg/l	--	NT			NT		NT	
	Anthracene	µg/l	770	NT			NT		NT	
	Benzo(a)anthracene	µg/l	0.0044	NT			NT		NT	
	Benzo(a)pyrene	µg/l	0.0044	NT			NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB111		231SB112		231SB113	
			Sample Date:		04/06/04		04/06/04		04/06/04	
			Sample Depth (feet):		16		10.5		15	
			Sample Number:		231SB111(16)		231SB112(10.5)		231SB113(15)	
			Lab Batch:		P404234		P404234		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene			µg/l	0.0044	NT		NT		NT	
Benzo(b+k)flouranthene, Total			µg/l	0.0044	NT		NT		NT	
Benzo(g,h,i)perylene			µg/l	--	NT		NT		NT	
Benzo(k)fluoranthene			µg/l	0.0044	NT		NT		NT	
Chrysene			µg/l	0.0044	NT		NT		NT	
Fluoranthene			µg/l	300	NT		NT		NT	
Fluorene			µg/l	300	NT		NT		NT	
Indeno(1,2,3-cd)pyrene			µg/l	0.0044	NT		NT		NT	
Naphthalene			µg/l	300	NT		NT		NT	
Phenanthrene			µg/l	230	NT		NT		NT	
Pyrene			µg/l	230	NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB114		231SB115		231SB115	
			Sample Date: 04/07/04		04/08/04		04/08/04	
			Sample Depth (feet): 16		16		16	
			Sample Number: 231SB114(16)		231SB115(16)		DUP040804	
			Lab Batch: P404235		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.054)	/U	ND(0.053)	/U	ND(0.053)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.27)	/U	ND(0.27)	/U	ND(0.27)	/U
TPH Gasoline (C7-C12)	µg/l	443	ND(50)	/U	ND(50)	U/J	ND(50)	U/J
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.15		0.6		ND(0.079)	U
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Ethylbenzene	µg/l	43	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Toluene	µg/l	150	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Xylenes (total)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
8260								
1,1-Dichloroethane	µg/l	5	NT		NT		NT	
1,2-Dichlorobenzene	µg/l	14	NT		NT		NT	
1,2-Dichloroethane	µg/l	0.38	NT		NT		NT	
1,2-Dichloroethene (cis & trans)	µg/l	6	NT		NT		NT	
2-Butanone	µg/l	--	NT		NT		NT	
Acetone	µg/l	700	NT		NT		NT	
Benzene	µg/l	1	NT		NT		NT	
Chlorobenzene	µg/l	70	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Methyl-tert-butyl ether	µg/l	13	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Trichloroethene	µg/l	2.7	NT		NT		NT	
Vinyl chloride	µg/l	0.5	NT		NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB114		231SB115		231SB115	
			Sample Date: 04/07/04		04/08/04		04/08/04	
			Sample Depth (feet): 16		16		16	
			Sample Number: 231SB114(16)		231SB115(16)		DUP040804	
			Lab Batch: P404235		P404268		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8270	Xylenes (m&p-)	µg/l	130	NT	NT		NT	
	Xylenes (o-)	µg/l	130	NT	NT		NT	
	Acenaphthene	µg/l	1,200	NT	NT		NT	
	Acenaphthylene	µg/l	--	NT	NT		NT	
	Anthracene	µg/l	770	NT	NT		NT	
	Benzo(a)anthracene	µg/l	0.0044	NT	NT		NT	
	Benzo(a)pyrene	µg/l	0.0044	NT	NT		NT	
	Benzo(b)fluoranthene	µg/l	0.0044	NT	NT		NT	
	Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT	NT		NT	
	Benzo(g,h,i)perylene	µg/l	--	NT	NT		NT	
	Benzo(k)fluoranthene	µg/l	0.0044	NT	NT		NT	
	Chrysene	µg/l	0.0044	NT	NT		NT	
	Fluoranthene	µg/l	300	NT	NT		NT	
	Fluorene	µg/l	300	NT	NT		NT	
	Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT	NT		NT	
	Naphthalene	µg/l	300	NT	NT		NT	
	Phenanthrene	µg/l	230	NT	NT		NT	
	Pyrene	µg/l	230	NT	NT		NT	
8270SIM	Acenaphthene	µg/l	1,200	NT	NT		NT	
	Acenaphthylene	µg/l	--	NT	NT		NT	
	Anthracene	µg/l	770	NT	NT		NT	
	Benzo(a)anthracene	µg/l	0.0044	NT	NT		NT	
	Benzo(a)pyrene	µg/l	0.0044	NT	NT		NT	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			<b>Station Number:</b>	<b>231SB114</b>	<b>231SB115</b>	<b>231SB115</b>
			<b>Sample Date:</b>	<b>04/07/04</b>	<b>04/08/04</b>	<b>04/08/04</b>
			<b>Sample Depth (feet):</b>	<b>16</b>	<b>16</b>	<b>16</b>
			<b>Sample Number:</b>	<b>231SB114(16)</b>	<b>231SB115(16)</b>	<b>DUP040804</b>
			<b>Lab Batch:</b>	<b>P404235</b>	<b>P404268</b>	<b>P404268</b>
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT	
Benzo(g,h,i)perylene	µg/l	--	NT		NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT	
Chrysene	µg/l	0.0044	NT		NT	
Fluoranthene	µg/l	300	NT		NT	
Fluorene	µg/l	300	NT		NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT	
Naphthalene	µg/l	300	NT		NT	
Phenanthrene	µg/l	230	NT		NT	
Pyrene	µg/l	230	NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB116		271SB100		38SB100	
			Sample Date: 04/05/04		04/08/04		04/07/04	
			Sample Depth (feet): 10.5		10.5		10.5	
			Sample Number: 231SB116(10.5)		271SB100(10.5)		38SB100(10.5)	
			Lab Batch: P404204		P404268		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.077)	/U	ND(0.05)	/U	ND(0.048)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.38)	/U	ND(0.25)	/U	ND(0.24)	/U
TPH Gasoline (C7-C12)	µg/l	443	ND(50)	U/J	ND(50)	U	ND(50)	U/J
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.35		0.047		0.11	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Xylenes (total)	µg/l	130	NT		NT		NT	
8260								
1,1-Dichloroethane	µg/l	5	0.35	/J	ND(0.5)	/U	ND(0.5)	/U
1,2-Dichlorobenzene	µg/l	14	ND(1)	/U	ND(1)	/U	ND(1)	/U
1,2-Dichloroethane	µg/l	0.38	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	ND(0.5)	/U	ND(0.5)	/U	3.8	
2-Butanone	µg/l	--	ND(5)	/U	ND(5)	/U	ND(5)	/U
Acetone	µg/l	700	3.1	J-/J	ND(10)	/U	ND(10)	/U
Benzene	µg/l	1	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Chlorobenzene	µg/l	70	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Ethylbenzene	µg/l	43	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Methyl-tert-butyl ether	µg/l	13	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Toluene	µg/l	150	ND(0.5)	/U	ND(0.5)	/U	0.14	/J
Trichloroethene	µg/l	2.7	ND(0.5)	/U	ND(0.5)	/U	0.18	/J
Vinyl chloride	µg/l	0.5	ND(0.5)	/U	ND(0.5)	/U	1.5	

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB116		271SB100		38SB100	
			Sample Date: 04/05/04		04/08/04		04/07/04	
			Sample Depth (feet): 10.5		10.5		10.5	
			Sample Number: 231SB116(10.5)		271SB100(10.5)		38SB100(10.5)	
			Lab Batch: P404204		P404268		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Xylenes (m&p-)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
Xylenes (o-)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(0.5)	/U
8270								
Acenaphthene	µg/l	1,200	NT		ND(0.2)	/U	NT	
Acenaphthylene	µg/l	--	NT		ND(0.2)	/U	NT	
Anthracene	µg/l	770	NT		ND(0.2)	/U	NT	
Benzo(a)anthracene	µg/l	0.0044	NT		0.062	/J	NT	
Benzo(a)pyrene	µg/l	0.0044	NT		ND(0.2)	/U	NT	
Benzo(b)fluoranthene	µg/l	0.0044	NT		0.051	/J	NT	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		0.051	/J	NT	
Benzo(g,h,i)perylene	µg/l	--	NT		ND(0.2)	/U	NT	
Benzo(k)fluoranthene	µg/l	0.0044	NT		ND(0.2)	/U	NT	
Chrysene	µg/l	0.0044	NT		0.043	/J	NT	
Fluoranthene	µg/l	300	NT		0.07	/J	NT	
Fluorene	µg/l	300	NT		ND(0.2)	/U	NT	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		ND(0.2)	/U	NT	
Naphthalene	µg/l	300	NT		ND(0.2)	U/J	NT	
Phenanthrene	µg/l	230	NT		0.076	/J	NT	
Pyrene	µg/l	230	NT		0.10	/J	NT	
8270SIM								
Acenaphthene	µg/l	1,200	NT		NT		ND(0.19)	/U
Acenaphthylene	µg/l	--	NT		NT		ND(0.19)	/U
Anthracene	µg/l	770	NT		NT		ND(0.19)	/U
Benzo(a)anthracene	µg/l	0.0044	NT		NT		0.045	/J
Benzo(a)pyrene	µg/l	0.0044	NT		NT		ND(0.19)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 231SB116		271SB100		38SB100	
			Sample Date: 04/05/04		04/08/04		04/07/04	
			Sample Depth (feet): 10.5		10.5		10.5	
			Sample Number: 231SB116(10.5)		271SB100(10.5)		38SB100(10.5)	
			Lab Batch: P404204		P404268		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		ND(0.19)	/U
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		ND(0.38)	/U
Benzo(g,h,i)perylene	µg/l	--	NT		NT		ND(0.19)	/U
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		ND(0.19)	/U
Chrysene	µg/l	0.0044	NT		NT		ND(0.19)	/U
Fluoranthene	µg/l	300	NT		NT		<b>0.041</b>	<b>/J</b>
Fluorene	µg/l	300	NT		NT		ND(0.19)	/U
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		ND(0.19)	/U
Naphthalene	µg/l	300	NT		NT		<b>0.081</b>	<b>/J</b>
Phenanthrene	µg/l	230	NT		NT		<b>0.043</b>	<b>/J</b>
Pyrene	µg/l	230	NT		NT		<b>0.061</b>	<b>/J</b>

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 38SB101		38SB102		38SB103	
			Sample Date: 04/07/04		04/07/04		04/06/04	
			Sample Depth (feet): 10.5		12		12	
			Sample Number: 38SB101(10.5)		38SB102(12)		38SB103(12)	
			Lab Batch: P404235		P404235		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
8015 Modified								
TPH Diesel (C12-C24)	mg/l	0.443	ND(0.052)	/U	ND(0.064)	/U	ND(0.081)	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND(0.26)	/U	ND(0.32)	/U	ND(0.4)	/U
TPH Gasoline (C7-C12)	µg/l	443	ND(50)	U/J	ND(50)	U/J	ND(50)	U/J
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	0.14		0.23		0.21	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND(50)	/U	ND(50)	/U	ND(50)	/U
8021								
Benzene	µg/l	1	NT		NT		NT	
Ethylbenzene	µg/l	43	NT		NT		NT	
Toluene	µg/l	150	NT		NT		NT	
Xylenes (total)	µg/l	130	NT		NT		NT	
8260								
1,1-Dichloroethane	µg/l	5	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
1,2-Dichlorobenzene	µg/l	14	ND(1)	/U	ND(1)	/U	ND(5)	/U
1,2-Dichloroethane	µg/l	0.38	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	0.15	/J	ND(0.5)	/U	ND(2.5)	/U
2-Butanone	µg/l	--	ND(5)	/U	1.4	/J	ND(25)	/U
Acetone	µg/l	700	ND(10)	/U	7.7	J-/J	ND(50)	/U
Benzene	µg/l	1	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
Chlorobenzene	µg/l	70	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
Ethylbenzene	µg/l	43	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
Methyl-tert-butyl ether	µg/l	13	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
Toluene	µg/l	150	0.16	/J	0.26	/J	1.3	/J
Trichloroethene	µg/l	2.7	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U
Vinyl chloride	µg/l	0.5	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101	38SB102		38SB103	
			Sample Date:		04/07/04	04/07/04		04/06/04	
			Sample Depth (feet):		10.5	12		12	
			Sample Number:		38SB101(10.5)	38SB102(12)		38SB103(12)	
			Lab Batch:		P404235	P404235		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	
Xylenes (m&p-)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U	
Xylenes (o-)	µg/l	130	ND(0.5)	/U	ND(0.5)	/U	ND(2.5)	/U	
8270									
Acenaphthene	µg/l	1,200	NT		NT		ND(0.2)	/U	
Acenaphthylene	µg/l	--	NT		NT		ND(0.2)	/U	
Anthracene	µg/l	770	NT		NT		ND(0.2)	/U	
Benzo(a)anthracene	µg/l	0.0044	NT		NT		ND(0.2)	/U	
Benzo(a)pyrene	µg/l	0.0044	NT		NT		ND(0.2)	/U	
Benzo(b)fluoranthene	µg/l	0.0044	NT		NT		0.051	/J	
Benzo(b+k)fluoranthene, Total	µg/l	0.0044	NT		NT		0.051	/J	
Benzo(g,h,i)perylene	µg/l	--	NT		NT		ND(0.2)	/U	
Benzo(k)fluoranthene	µg/l	0.0044	NT		NT		ND(0.2)	/U	
Chrysene	µg/l	0.0044	NT		NT		ND(0.2)	/U	
Fluoranthene	µg/l	300	NT		NT		ND(0.2)	/U	
Fluorene	µg/l	300	NT		NT		ND(0.2)	/U	
Indeno(1,2,3-cd)pyrene	µg/l	0.0044	NT		NT		ND(0.2)	/U	
Naphthalene	µg/l	300	NT		NT		ND(0.2)	/U	
Phenanthrene	µg/l	230	NT		NT		ND(0.2)	/U	
Pyrene	µg/l	230	NT		NT		0.049	/J	
8270SIM									
Acenaphthene	µg/l	1,200	0.49		ND(0.19)	/U	NT		
Acenaphthylene	µg/l	--	0.044	/J	ND(0.19)	/U	NT		
Anthracene	µg/l	770	0.075	/J	ND(0.19)	/U	NT		
Benzo(a)anthracene	µg/l	0.0044	0.31		0.071	/J	NT		
Benzo(a)pyrene	µg/l	0.0044	0.41		0.069	/J	NT		

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB101		38SB102		38SB103	
			Sample Date:		04/07/04		04/07/04		04/06/04	
			Sample Depth (feet):		10.5		12		12	
			Sample Number:		38SB101(10.5)		38SB102(12)		38SB103(12)	
			Lab Batch:		P404235		P404235		P404234	
Test Method/Analyte Name			Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual
Benzo(b)fluoranthene			µg/l	0.0044	0.47		0.11 /J		NT	
Benzo(b+k)fluoranthene, Total			µg/l	0.0044	0.61		0.14 /J		NT	
Benzo(g,h,i)perylene			µg/l	--	0.20	/J	0.044	/J	NT	
Benzo(k)fluoranthene			µg/l	0.0044	0.15 /J		ND(0.19) /U		NT	
Chrysene			µg/l	0.0044	0.38		0.079 /J		NT	
Fluoranthene			µg/l	300	0.47		0.12 /J		NT	
Fluorene			µg/l	300	ND(0.21) /U		ND(0.19) /U		NT	
Indeno(1,2,3-cd)pyrene			µg/l	0.0044	0.15 /J		ND(0.19) /U		NT	
Naphthalene			µg/l	300	0.061 /J		ND(0.19) /U		NT	
Phenanthrene			µg/l	230	0.26		0.06 /J		NT	
Pyrene			µg/l	230	0.69		0.15 /J		NT	

ND= Not detected at specific reporting limit in parentheses.  
NT Not tested.  
Concentrations outlined in bold exceed cleanup level.  
mg/kg Milligrams per kilogram



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

<b>Station Number: 38SB103</b> <b>Sample Date: 04/06/04</b> <b>Sample Depth (feet): 12</b> <b>Sample Number: DUP040604</b> <b>Lab Batch: P404234</b>				
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual
8015 Modified				
TPH Diesel (C12-C24)	mg/l	0.443	ND ( 0.078 )	/U
TPH Fuel Oil (C24-C36)	mg/l	0.443	ND ( 0.39 )	/U
TPH Gasoline (C7-C12)	µg/l	443	ND ( 78 )	U
TPH Unknown Diesel Hydrocarbon	mg/l	0.443	<b>0.25</b>	
TPH Unknown Gasoline Hydrocarbon	µg/l	443	ND ( 50 )	/U
8021				
Benzene	µg/l	1	NT	
Ethylbenzene	µg/l	43	NT	
Toluene	µg/l	150	NT	
Xylenes (total)	µg/l	130	NT	
8260				
1,1-Dichloroethane	µg/l	5	ND ( 2.5 )	/U
1,2-Dichlorobenzene	µg/l	14	ND ( 5 )	/U
1,2-Dichloroethane	µg/l	0.38	ND ( 2.5 )	/U
1,2-Dichloroethene (cis & trans)	µg/l	6	ND ( 2.5 )	/U
2-Butanone	µg/l	--	ND ( 25 )	/U
Acetone	µg/l	700	ND ( 50 )	/U
Benzene	µg/l	1	ND ( 2.5 )	/U
Chlorobenzene	µg/l	70	ND ( 2.5 )	/U
Ethylbenzene	µg/l	43	ND ( 2.5 )	/U
Methyl-tert-butyl ether	µg/l	13	ND ( 2.5 )	/U
Toluene	µg/l	150	<b>1.5</b>	/J
Trichloroethene	µg/l	2.7	ND ( 2.5 )	/U
Vinyl chloride	µg/l	0.5	ND ( 2.5 )	/U

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Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

		Station Number:	38SB103
		Sample Date:	04/06/04
		Sample Depth (feet):	12
		Sample Number:	DUP040604
		Lab Batch:	P404234
Test Method/Analyte Name	Units	Cleanup Level	Value Qual
8270	Xylenes (m&p-)	µg/l	130 ND (2.5) /U
	Xylenes (o-)	µg/l	130 ND (2.5) /U
	Acenaphthene	µg/l	1,200 0.053 J-/J
	Acenaphthylene	µg/l	-- 0.044 J-/J
	Anthracene	µg/l	770 0.043 J-/J
	Benzo(a)anthracene	µg/l	0.0044 0.20 J-
	Benzo(a)pyrene	µg/l	0.0044 0.30 J-
	Benzo(b)fluoranthene	µg/l	0.0044 0.45 J-
	Benzo(b+k)fluoranthene, Total	µg/l	0.0044 0.56 J-
	Benzo(g,h,i)perylene	µg/l	-- 0.19 J-/J
	Benzo(k)fluoranthene	µg/l	0.0044 0.11 J-/J
	Chrysene	µg/l	0.0044 0.31 J-
	Fluoranthene	µg/l	300 0.32 J-
	Fluorene	µg/l	300 0.19 J-/J
	Indeno(1,2,3-cd)pyrene	µg/l	0.0044 0.13 J-/J
	Naphthalene	µg/l	300 0.16 J-/J
	Phenanthrene	µg/l	230 0.35 J-
	Pyrene	µg/l	230 0.46 J-
8270SIM	Acenaphthene	µg/l	1,200 NT
	Acenaphthylene	µg/l	-- NT
	Anthracene	µg/l	770 NT
	Benzo(a)anthracene	µg/l	0.0044 NT
	Benzo(a)pyrene	µg/l	0.0044 NT

MACTEC, Inc.



Table 4. Organic Compounds Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

Station Number:		38SB103			
Sample Date:		04/06/04			
Sample Depth (feet):		12			
Sample Number:		DUP040604			
Lab Batch:		P404234			
Test Method/Analyte Name		Units	Cleanup Level	Value	Qual
Benzo(b)fluoranthene		µg/l	0.0044	NT	
Benzo(b+k)fluoranthene, Total		µg/l	0.0044	NT	
Benzo(g,h,i)perylene		µg/l	--	NT	
Benzo(k)fluoranthene		µg/l	0.0044	NT	
Chrysene		µg/l	0.0044	NT	
Fluoranthene		µg/l	300	NT	
Fluorene		µg/l	300	NT	
Indeno(1,2,3-cd)pyrene		µg/l	0.0044	NT	
Naphthalene		µg/l	300	NT	
Phenanthrene		µg/l	230	NT	
Pyrene		µg/l	230	NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 5. Metals Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			<b>Station Number:</b>		<b>207HP100</b>		<b>207HP101</b>		<b>207HP102</b>		<b>207HP103</b>	
			<b>Sample Date:</b>		<b>04/08/04</b>		<b>04/08/04</b>		<b>04/07/04</b>		<b>04/07/04</b>	
			<b>Sample Depth (feet):</b>		<b>12</b>		<b>12</b>		<b>12</b>		<b>10</b>	
			<b>Sample Number:</b>		<b>207HP100(12)</b>		<b>207HP101(12)</b>		<b>207HP102(12)</b>		<b>207HP103(10)</b>	
			<b>Lab Batch:</b>		<b>P404268</b>		<b>P404268</b>		<b>P404235</b>		<b>P404235</b>	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	µg/l	10	NT		NT		NT		NT		NT	
Cadmium	µg/l	1.1	NT		NT		NT		NT		NT	
Chromium	µg/l	50	NT		NT		NT		NT		NT	
Lead	µg/l	3.2	ND ( 3 )	f/U	ND ( 3 )	f/U	ND ( 3 )	f/U	ND ( 3 )	f/U	ND ( 3 )	f/U
Nickel	µg/l	7.1	NT		NT		NT		NT		NT	

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 5. Metals Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		207SB104		207SB105		208SB100		228SB101	
			Sample Date:		04/08/04		04/08/04		04/08/04		04/06/04	
			Sample Depth (feet):		12		16		12		16	
			Sample Number:		207SB104(12)		207SB105(16)		208SB100(12)		228SB101(16)	
			Lab Batch:		P404268		P404268		P404268		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	µg/l	10	NT		NT		7.5	f	5.5	f		
Cadmium	µg/l	1.1	NT		NT		0.51	f/J	ND(1)	f/U		
Chromium	µg/l	50	NT		NT		ND(10)	f/U	ND(10)	f/U		
Lead	µg/l	3.2	ND(3)	f/U	ND(3)	f/U	ND(3)	f/U	ND(3)	f/U		
Nickel	µg/l	7.1	NT		NT		8.0	f/J	8.1	f/J		

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 5. Metals Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number: 228SB102		231SB102		231SB103		231SB104	
			Sample Date: 04/06/04		04/08/04		04/05/04		04/07/04	
			Sample Depth (feet): 16		12		10.5		12	
			Sample Number: 228SB102(16)		231SB102(12)		231SB103(10.5)		231SB104(12)	
			Lab Batch: P404234		P404268		P404204		P404235	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020										
Arsenic	µg/l	10	3.8	f/J	10.	f	ND(12)	f/U	NT	
Cadmium	µg/l	1.1	ND(1)	f/U/J	ND(1)	f/U	0.16	f/J	NT	
Chromium	µg/l	50	ND(10)	f/U	ND(10)	f/U	ND(10)	f/U/J	NT	
Lead	µg/l	3.2	ND(3)	f/U	ND(3)	f/U	ND(3)	f/U	ND(3)	f/U
Nickel	µg/l	7.1	10.	f	3.2	f/J	6.7	f/J	12.	f

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 5. Metals Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		231SB104		231SB105		231SB116		271SB100	
			Sample Date:		04/07/04		04/07/04		04/05/04		04/08/04	
			Sample Depth (feet):		12		12		10.5		10.5	
			Sample Number:		DUP040704-3		231SB105(12)		231SB116(10.5)		271SB100(10.5)	
			Lab Batch:		P404235		P404235		P404204		P404268	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	µg/l	10	NT		NT		ND(8.3)	fU			9.7	f
Cadmium	µg/l	1.1	NT		NT		0.16	f/J			0.29	f/J
Chromium	µg/l	50	NT		NT		ND(10)	fU/J			1.0	f/J
Lead	µg/l	3.2	0.76	f/J	ND(3)	f/U	ND(3)	f/U			ND(3)	f/U
Nickel	µg/l	7.1	15.	f	5.7	f/J	5.0	f/J			4.7	f/J

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Table 5. Metals Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

			Station Number:		38SB100		38SB101		38SB102		38SB103	
			Sample Date:		04/07/04		04/07/04		04/07/04		04/06/04	
			Sample Depth (feet):		10.5		10.5		12		12	
			Sample Number:		38SB100(10.5)		38SB101(10.5)		38SB102(12)		38SB103(12)	
			Lab Batch:		P404235		P404235		P404235		P404234	
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
6020												
Arsenic	µg/l	10	ND(8.7)	fU	ND(14)	fU	<b>24.</b>	<b>f</b>			<b>7.2</b>	<b>f</b>
Cadmium	µg/l	1.1	ND(1)	fU/J	ND(1)	fU/J	ND(1)	fU/J	ND(1)	fU/J	ND(1)	fU/J
Chromium	µg/l	50	ND(10)	fU/J	ND(10)	fU/J	ND(10)	fU/J	ND(10)	fU/J	ND(10)	f/U
Lead	µg/l	3.2	<b>1.1</b>	<b>f/J</b>	ND(3)	f/U	ND(3)	f/U	ND(3)	f/U	ND(3)	f/U
Nickel	µg/l	7.1	<b>4.4</b>	<b>f/J</b>	<b>6.2</b>	<b>f/J</b>	<b>8.4</b>	<b>f/J</b>			<b>7.4</b>	<b>f/J</b>

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

**Concentrations outlined in bold exceed cleanup level.**

mg/kg Milligrams per kilogram



Table 5. Metals Detected in Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

Station Number:		38SB103		
Sample Date:		04/06/04		
Sample Depth (feet):		12		
Sample Number:		DUP040604		
Lab Batch:		P404234		
Test Method/Analyte Name	Units	Cleanup Level	Value	Qual
6020				
Arsenic	µg/l	10	7.4	f
Cadmium	µg/l	1.1	ND(1)	fU/J
Chromium	µg/l	50	ND(10)	f/U
Lead	µg/l	3.2	ND(3)	f/U
Nickel	µg/l	7.1	6.6	f/J

ND= Not detected at specific reporting limit in parentheses.

NT Not tested.

  Concentrations outlined in bold exceed cleanup level.

mg/kg Milligrams per kilogram



Explanation of Qualifiers  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

Source	Qualifier	Description
<b>Laboratory Assigned Qualifiers</b>		
	/U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
	/J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
<b>MACTEC Validation Assigned Qualifiers (Please see Table E2, Appendix E for reason for application of qualifier during data validation)</b>		
	J-	The analyte was positively identified; the associated numerical value is biased low and should be considered an approximate concentration of the analyte in the sample.
	J+	The analyte was positively identified; the associated numerical value is biased high and should be considered an approximate concentration of the analyte in the sample.
	U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
	R	The sample results are qualified as rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
	f	Samples for metals analyses filtered by laboratory.

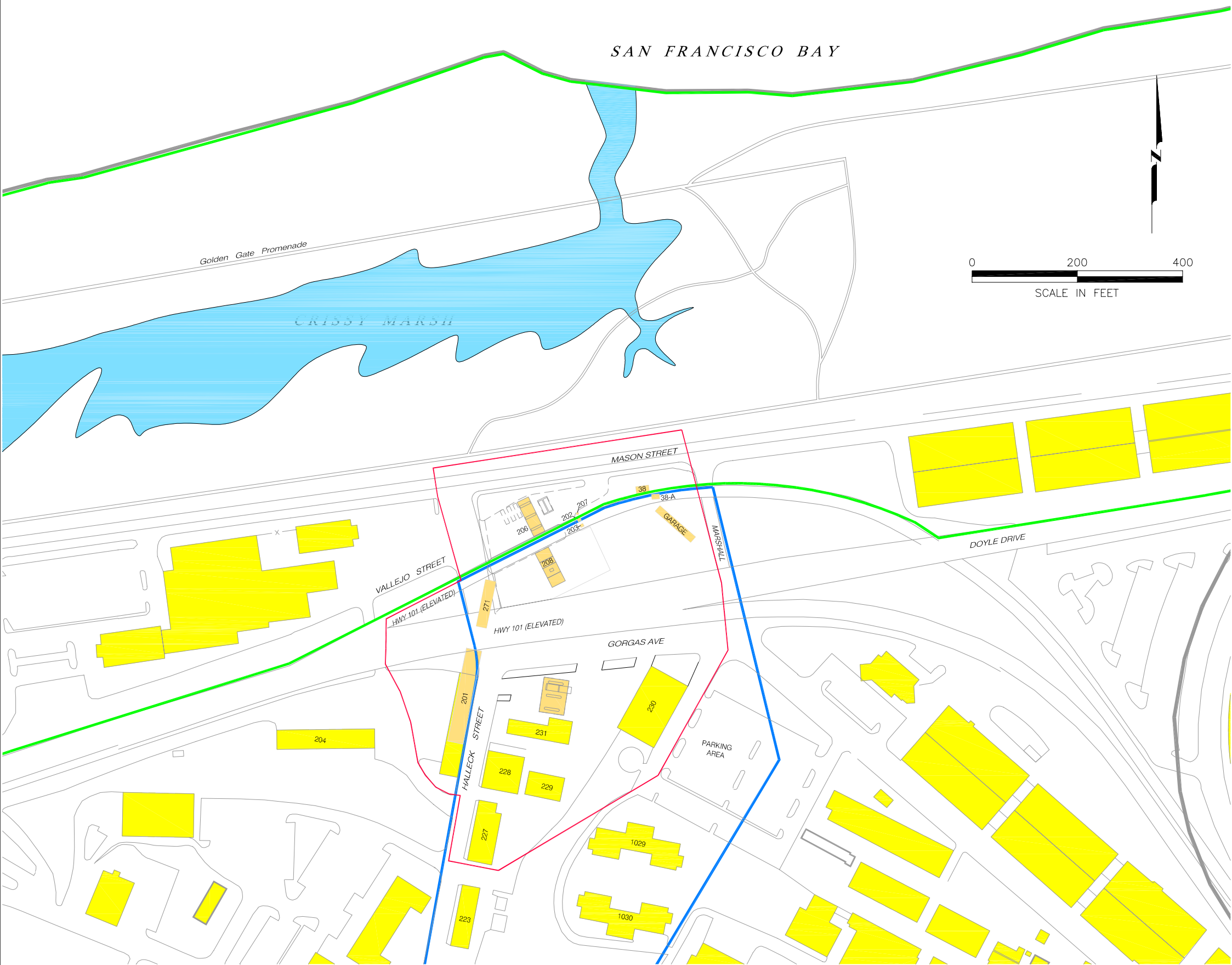
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Approved by: mgb



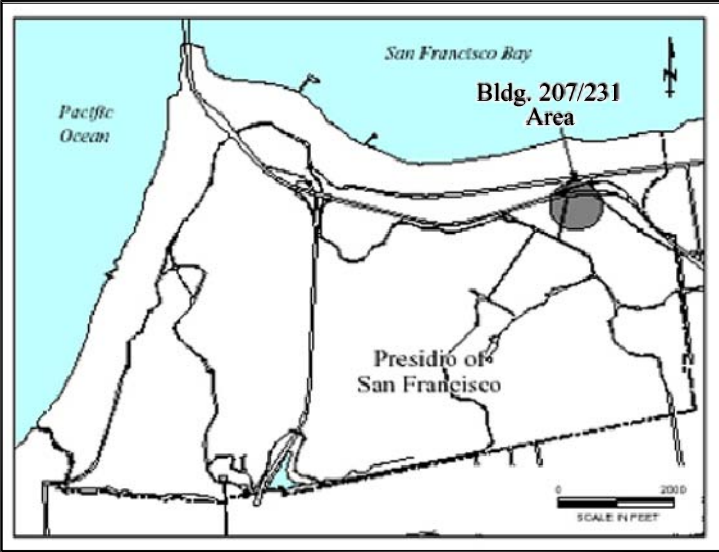
## PLATES





EXPLANATION

- EXISTING BUILDING
- FORMER BUILDING
- BUILDING 207/231 AREA
- TENNESSEE HOLLOW FRESH WATER ECOLOGICAL PROTECTION ZONE
- CRISSY FIELD SALTWATER PROTECTION ZONE



**MACTEC**

DRAWN  
PH

JOB NUMBER  
4089041001 103

Site Location Map  
Building 207/231  
Data Gaps Investigation Report  
Presidio of San Francisco  
San Francisco, California

APPROVED  
DATE  
7/04

REVISED DATE

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20041216.0853

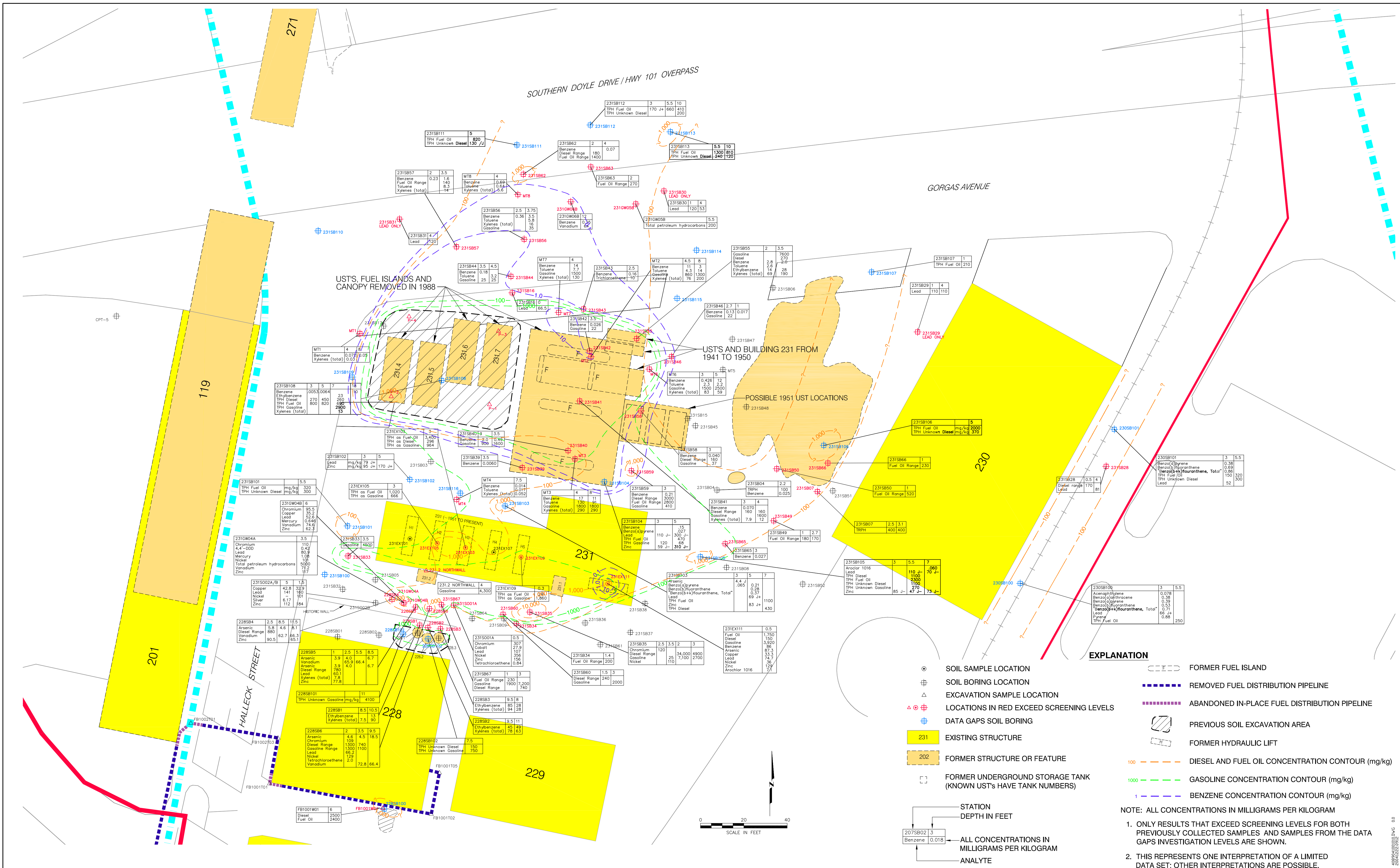




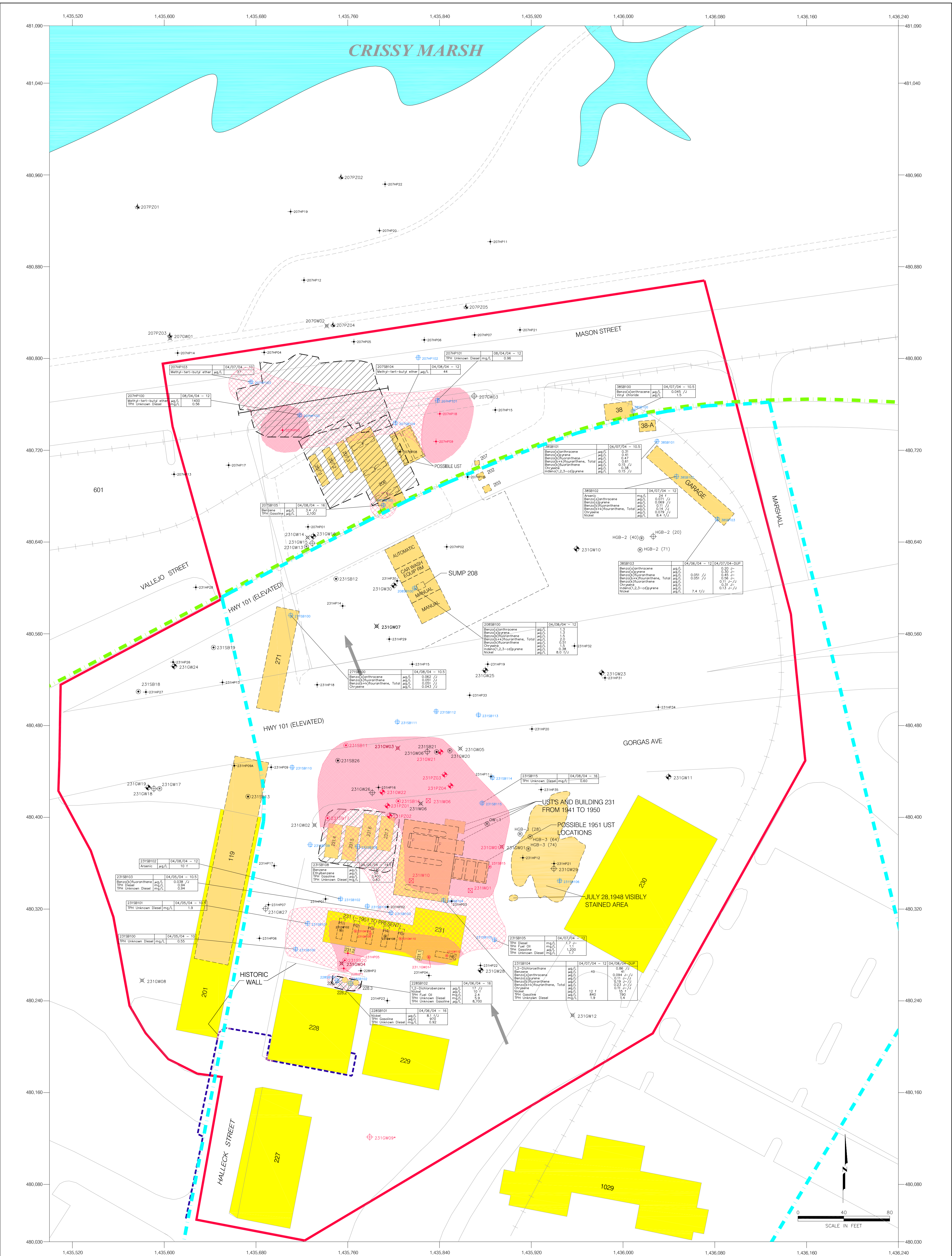












EXPLANATION

- DATA GAPS HYDROPUNCH/SOIL BORING
- MONITORING WELL - SHALLOW ZONE
- MONITORING WELL - INTERMEDIATE ZONES
- MONITORING WELL - DEEP ZONES
- MONITORING WELL - DECOMMISSIONED
- PIEZOMETER
- PIEZOMETER - DECOMMISSIONED
- POSSIBLE INJECTION (IW) OR EXTRACTION (EW) WELL
- PREVIOUS HYDROPUNCH
- PREVIOUS GRAB GROUNDWATER SAMPLE
- PREVIOUS LOCATIONS IN RED EXCEED SCREENING LEVELS
- NITRATE EXCEEDANCE ONLY
- APPROXIMATE DIRECTION OF SHALLOW ZONE GROUNDWATER FLOW NOVEMBER 26, 2001
- FORMER HYDRAULIC LIFT

- 231 EXISTING STRUCTURE
- 202 FORMER STRUCTURE OR FEATURE
- BUILDING 207/231 AREA
- SALTWATER PROTECTION ZONE (NORTH OF GREEN LINE)
- FRESHWATER PROTECTION ZONE (SOUTH AND EAST OF BLUE LINE)
- FORMER UNDERGROUND STORAGE TANK (KNOWN UST'S HAVE TANK NUMBERS)
- FORMER FUEL ISLAND
- REMOVED FUEL DISTRIBUTION PIPELINE
- ABANDONED IN-PLACE FUEL DISTRIBUTION PIPELINE
- FORMER RAILROAD TRACKS

BORING NAME UNITS DATE AND DEPTH

CONCENTRATION LISTED IN SCREENING LEVEL INSERT ANALYTE

228SB102	04/06/04 - 10
TPH Fuel Oil	1.7
TPH Unknown Diesel	1.7
Unknown Gasoline	8.700

NOTE: ONLY RESULTS FOR SAMPLES COLLECTED AS PART OF THE DATA GAPS INVESTIGATION THAT EXCEED SCREENING LEVELS ARE SHOWN.

THE ANALYTE WAS POSITIVELY IDENTIFIED; THE ASSOCIATED NUMERICAL VALUE IS THE APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE.

THE ANALYTE WAS POSITIVELY IDENTIFIED; THE ASSOCIATED NUMERICAL VALUE IS BIASED LOW AND SHOULD BE CONSIDERED AN APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE.

THE ANALYTE WAS POSITIVELY IDENTIFIED; THE ASSOCIATED NUMERICAL VALUE IS BIASED HIGH AND SHOULD BE CONSIDERED AN APPROXIMATE CONCENTRATION OF THE ANALYTE IN THE SAMPLE.

SAMPLES FOR METALS ANALYSES FILTERED BY LABORATORY

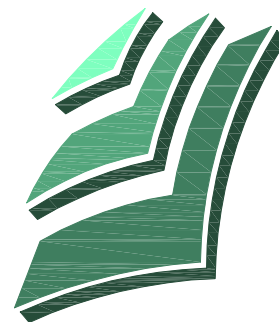
NOTE: QUALIFIERS ARE ALWAYS LISTED AS VALIDATION QUALIFIER / LAB QUALIFIERS (i.e. J+, U).

SHALLOW GROUNDWATER ZONE AREA EXCEEDING PETROLEUM HYDROCARBON SCREENING LEVELS (Gasoline, Diesel, Fuel Oil, Benzene, Toluene, Ethylbenzene, Xylene, and/or MTBE)

NEWLY DEFINED SHALLOW GROUNDWATER ZONE AREA EXCEEDING PETROLEUM HYDROCARBON SCREENING LEVELS

Key:  
µg/L = micrograms per Liter  
mg/L = milligrams per Liter

Chemical	Groundwater Screening Level
1,2-Dichlorobenzene	14 µg/L
1,2-Dichloroethane	0.38 µg/L
Arsenic	10 µg/L
Benzene	1 µg/L
Benzo(a)anthracene	0.0044 µg/L
Benzo(a)pyrene	0.0044 µg/L
Benzo(b)fluoranthene	0.0044 µg/L
Benzo(k)fluoranthene, Total	0.0044 µg/L
Benzo(b)fluoranthene	0.0044 µg/L
Chrysene	0.0044 µg/L
Ethylbenzene	43 µg/L
Indenol(1,2,3-cd)pyrene	0.0044 µg/L
Methyl-tert-butyl ether	13 µg/L
Nickel	7.1 µg/L
TPH Diesel	0.443 mg/L
TPH Fuel Oil	0.443 mg/L
TPH Gasoline	443 µg/L
TPH Unknown Diesel	0.443 mg/L
TPH Unknown Gasoline	443 µg/L
Vinyl chloride	0.5 µg/L



MACTEC

DRAWN JOB NUMBER  
CN 4089041001 103

Groundwater Samples Exceeding Screening Levels, Building 207/231  
Data Gaps Investigation Report  
Presidio of San Francisco  
San Francisco, California

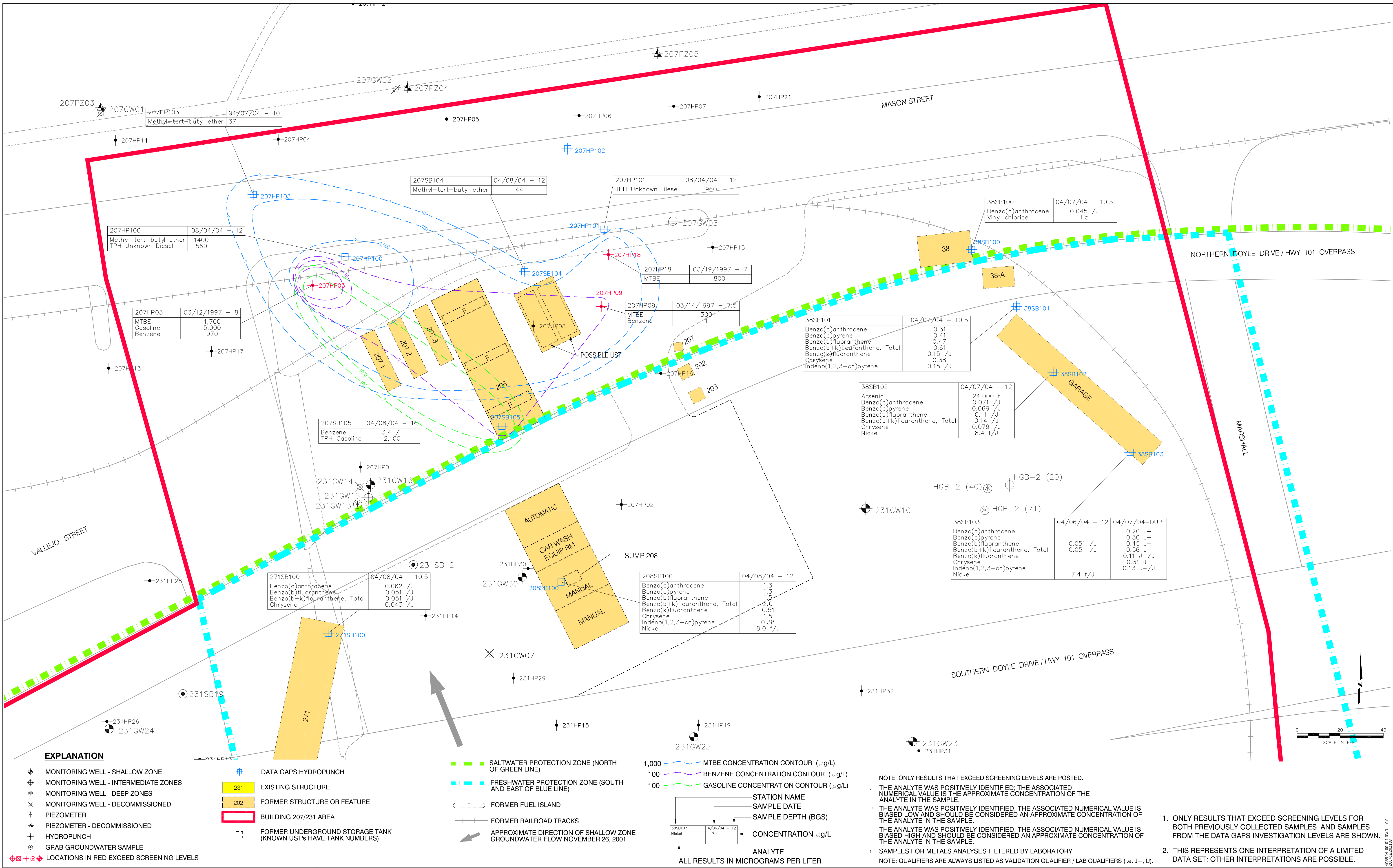
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6/04

PLATE

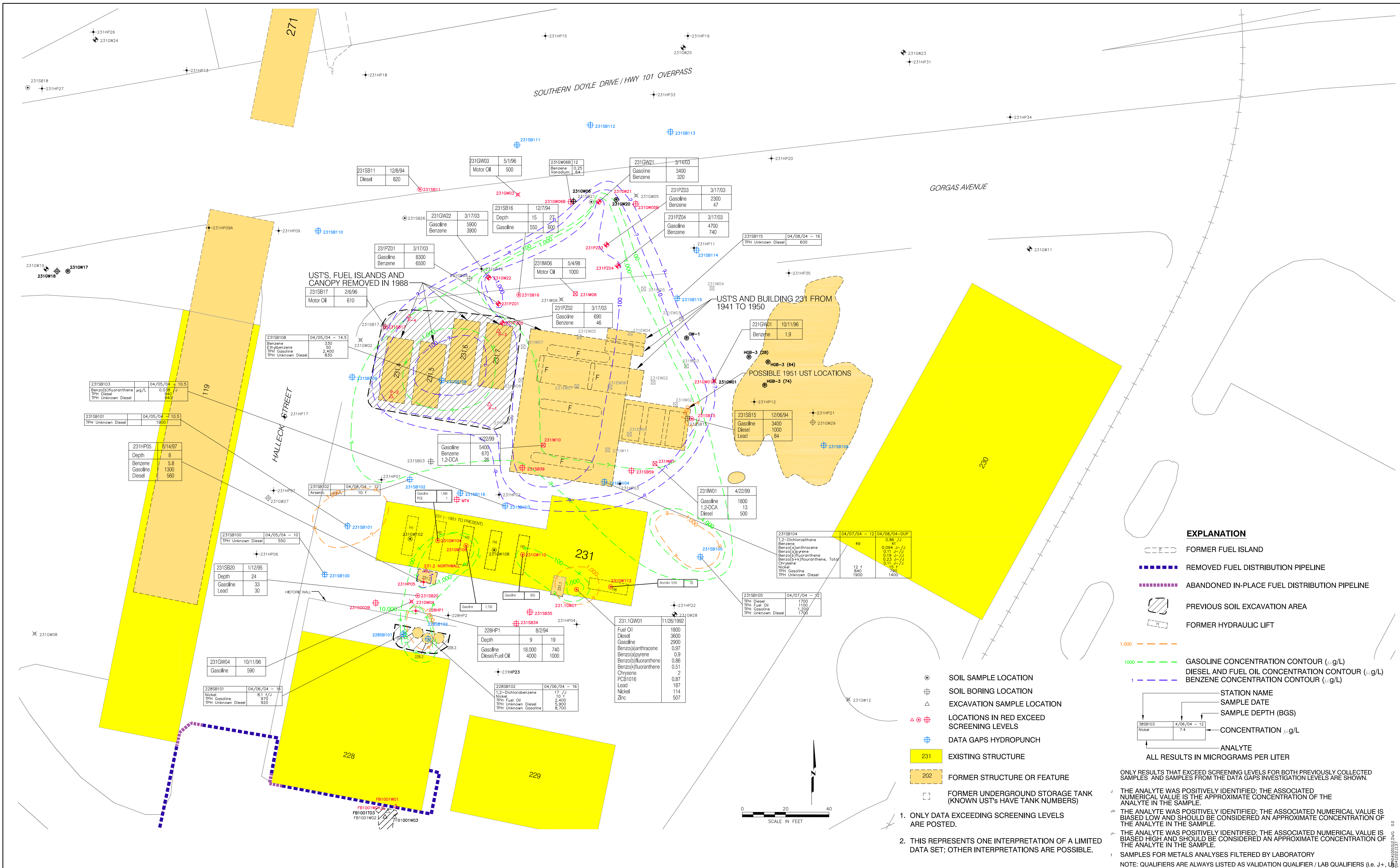
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REVISED DATE



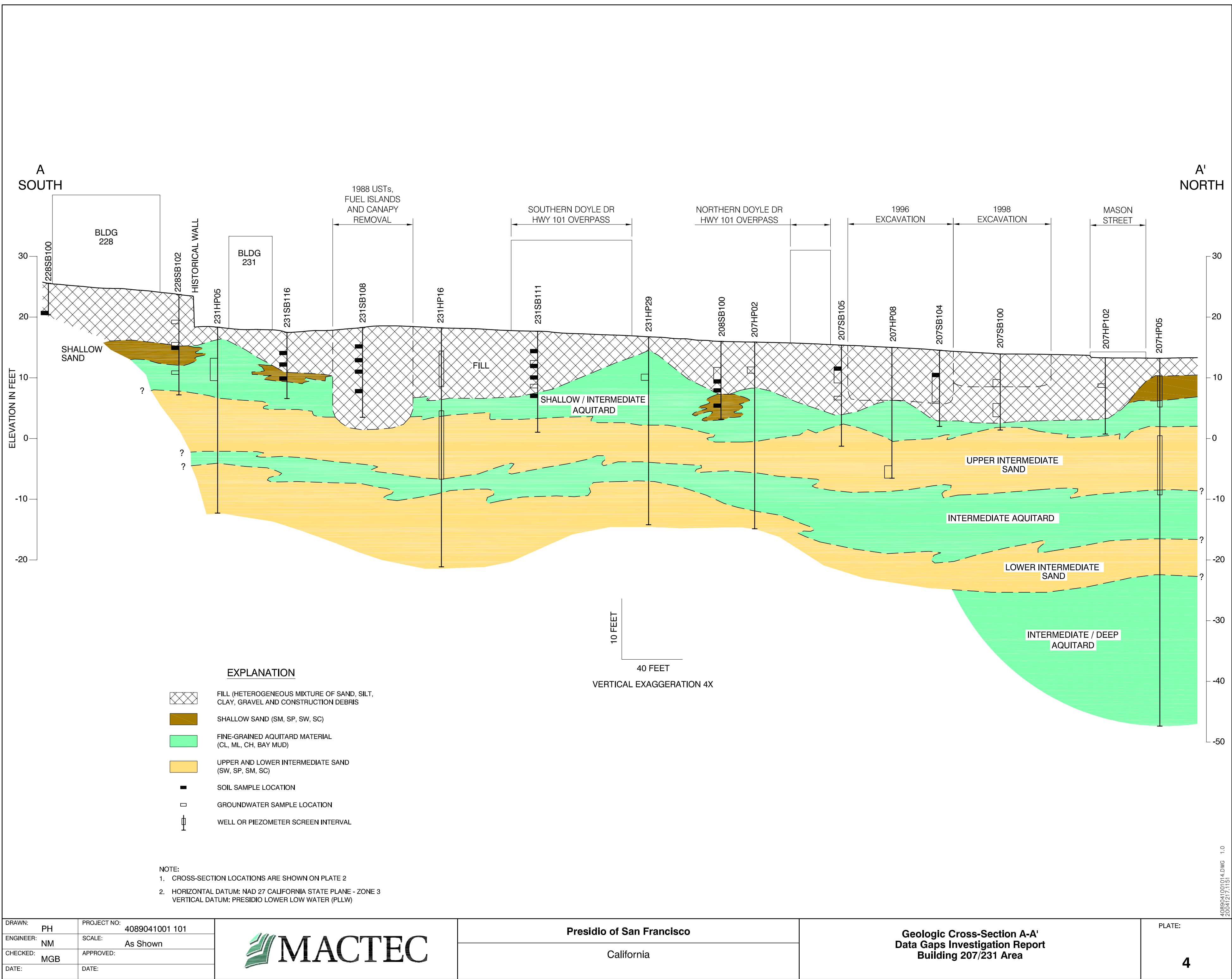




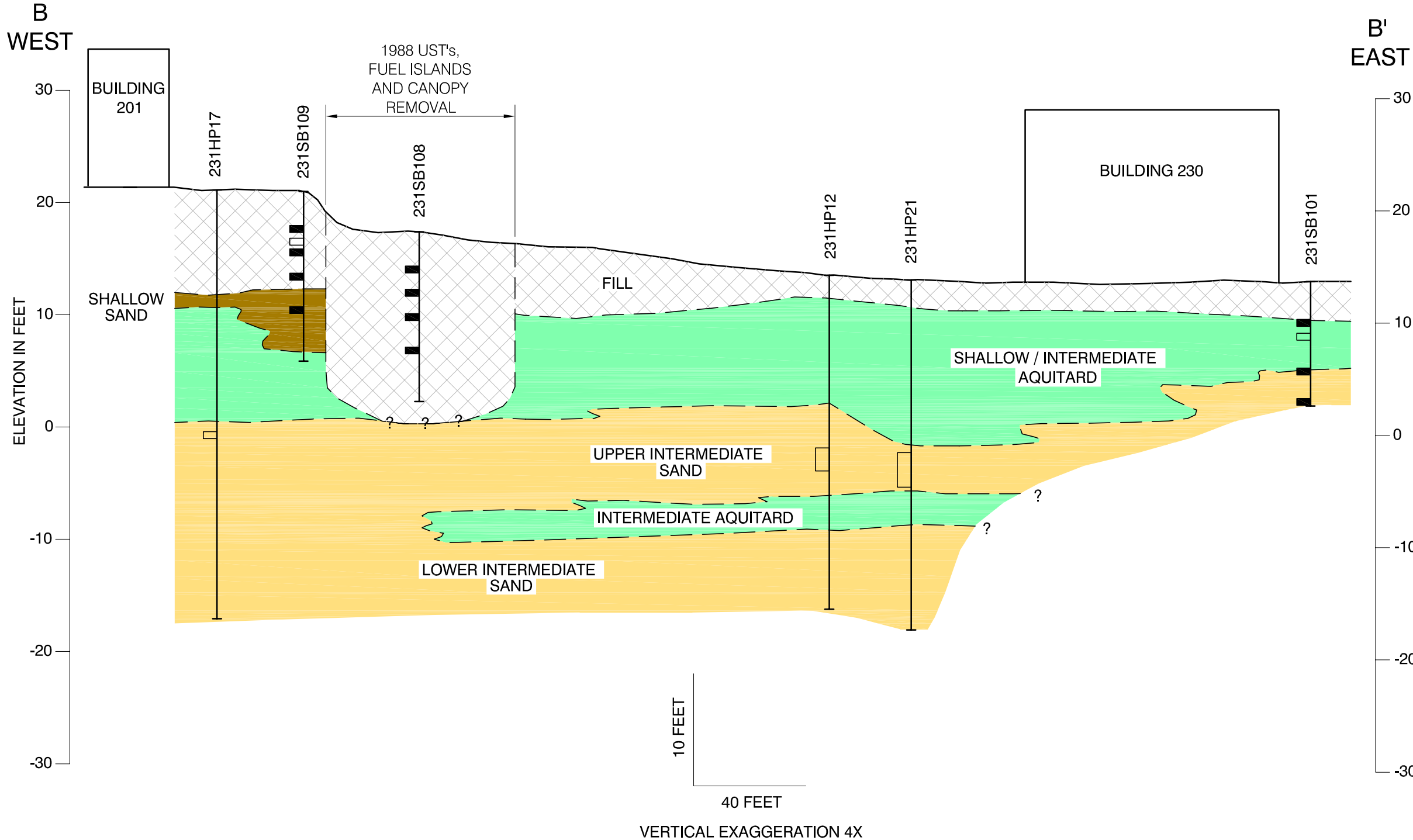


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		ENGINEER: RM		SCALE: AS SHOWN							
		CHECKED: MGB		APPROVED: MGB							
NO. DATE		BY CHK		DATE: 3-2-04		DATE: 11/04					
										Groundwater Sample Data - Building 231 and 230 Area Building 207/231 Data Gaps Investigation Report	
										PLATE: <b>3B</b>	









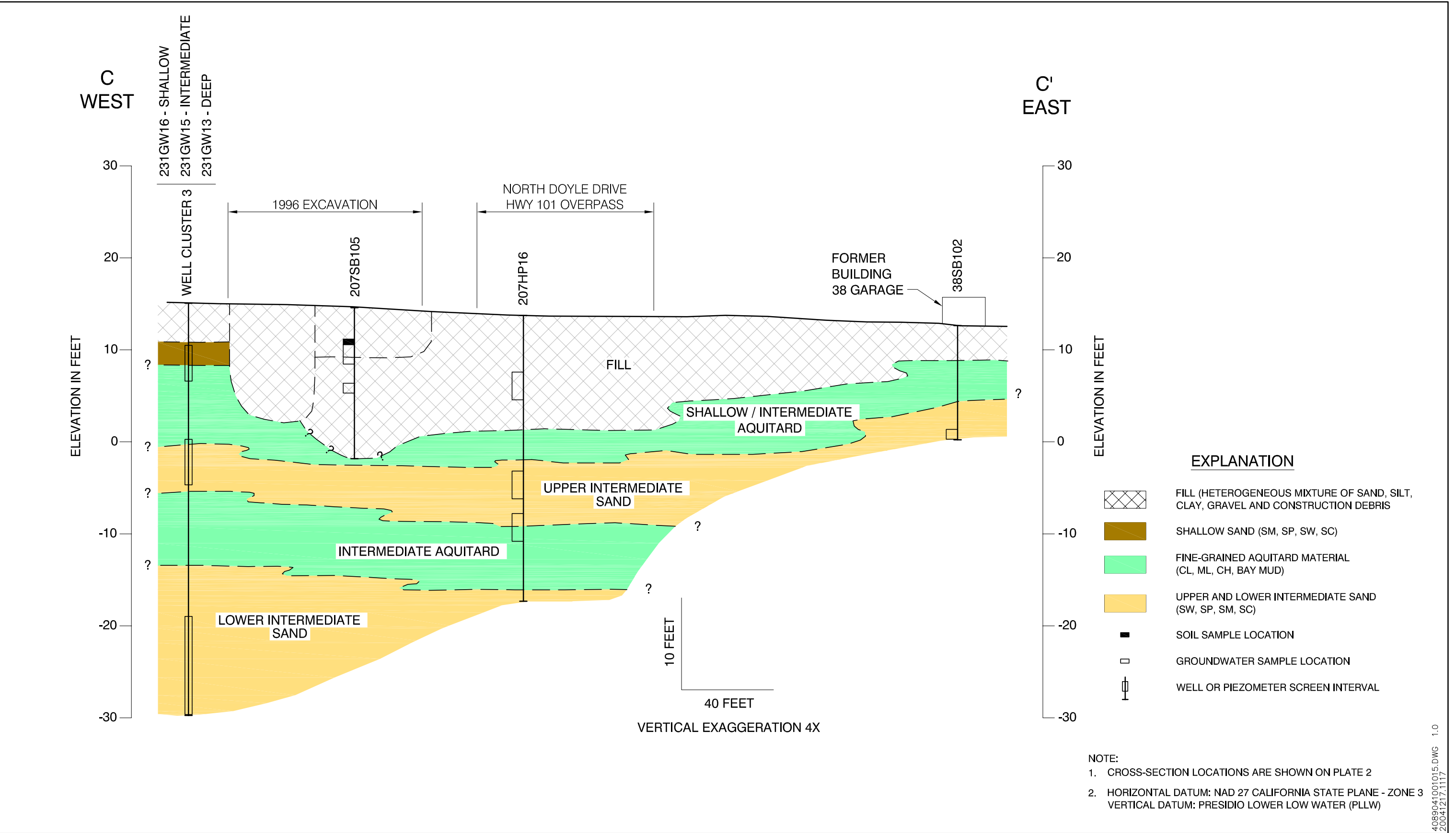
- EXPLANATION**
- FILL (HETEROGENEOUS MIXTURE OF SAND, SILT, CLAY, GRAVEL AND CONSTRUCTION DEBRIS)
  - SHALLOW SAND (SM, SP, SW, SC)
  - FINE-GRAINED AQUITARD MATERIAL (CL, ML, CH, BAY MUD)
  - UPPER AND LOWER INTERMEDIATE SAND (SW, SP, SM, SC)
  - SOIL SAMPLE LOCATION
  - GROUNDWATER SAMPLE LOCATION
  - WELL OR PIEZOMETER SCREEN INTERVAL

NOTE:  
1. CROSS-SECTION LOCATIONS ARE SHOWN ON PLATE 2  
2. HORIZONTAL DATUM: NAD 27 CALIFORNIA STATE PLANE - ZONE 3,  
VERTICAL DATUM: PRESIDIO LOWER LOW WATER (PLLW)

DRAWN: PH	PROJECT NO: 4089041001 101		<b>Geologic Cross-Section B-B'</b> Data Gaps Investigation Report Building 207/231 Area Presidio of San Francisco, California	PLATE:
ENGINEER: NM	SCALE: As Shown			5
CHECKED: MGB	APPROVED:			
DATE:	DATE: 11/2004			

4089041001016.DWG 40.0  
20041217.1137





DRAWN:	PH	PROJECT NO:	4089041001 101
ENGINEER:	NM	SCALE:	As Shown
CHECKED:	MGB	APPROVED:	
DATE:		DATE:	11/2004



**Geologic Cross-Section C-C'**  
Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

PLATE:

6

4089041001015.DWG 1.0  
20041217.1117



APPENDIX A

SCREENING LEVELS



## APPENDIX A

### SCREENING LEVELS

For discussion and screening purposes, chemical results were compared to conservative screening levels. The screening levels used in this report comprise the most stringent cleanup levels applicable for the Building 207/231 Area based on planned site use and potentially impacted receptors. These levels were only used for screening purposes to evaluate the nature and extent of soil and groundwater contamination at the site for this investigation. A more refined evaluation of cleanup levels at the site, which includes an analysis of site media, ecological habitat, background concentrations of inorganic compounds, and future land use, will be conducted in the corrective action phase of the project.

For soil, the most stringent of the following applicable cleanup levels were selected as screening levels:

- **Protection of Human Health, Residential Use** – Planned land use at the Building 207/231 Area is a mixture of residential and commercial/recreational (*EKI, 2002*). The more stringent residential cleanup levels were selected as screening levels for human health.
- **Protection of Ecological Receptors, Buffer Zone/Special-Status** – Planned ecological use at the Building 207/231 Area is a mixture of buffer zone and special-status species (*EKI, 2002*). The more stringent special-status species cleanup levels were selected as screening levels for ecological species.
- **Protection of Freshwater Ecological Receptors** – The freshwater ecological protection zone established under RWQCB Order SCR R2-2003-0080 (Plates 2 and 3; *RWQCB, 2003a*) encompasses most of the southern portion of the Site. Reuse plans for the zone include restoration of the Tennessee Hollow drainage corridor through this area. The drainage corridor will include a freshwater stream that will traverse the ecological protection zone and discharge into the tidal wetlands of Crissy Field.
- **Protection of Saltwater Ecological Receptors** – The saltwater ecological protection zone established under RWQCB Order SCR R2-2003-0080 (Plates 2 and 3; *RWQCB, 2003a*) includes the northern portion of the Site north of the Doyle drive overpass. There is also a possibility that the Crissy Marsh area may be extended just south of Building 231 (Plates 2 and 3; *BBL, 2004*).
- **Protection of Groundwater at Drinking Water Levels** - For petroleum related constituents in soil, a depth to groundwater of less than 5 feet was assumed to evaluate the leaching potential from soil to groundwater at drinking water levels.
- **Metals Background Concentrations for Colma Formation** – Background threshold metals concentrations for Colma formation were also used to assess metals concentrations (*EKI, 2002*). The most stringent of the applicable cleanup levels listed above was selected as the screening level for each chemical, or in the case of metals, the background concentration for Colma formation was selected as the screening level if it was greater than the other more stringent screening level.

For groundwater, the most stringent of the following applicable cleanup levels were selected as screening levels:

- **Protection of Human Health, Drinking Water Levels** – The Building 207/231 Area is located within the Northeastern Groundwater Area and Crissy Field Groundwater Area of the Marina Groundwater Basin. The groundwater is a possible source for municipal water supply and surface



water replenishment, although the groundwater is not currently used as a drinking water source and it is unlikely that groundwater within the Crissy Field Area could be used for potable purposes because pumping groundwater would likely cause seawater intrusion and land subsidence (*RWQCB, 2003a*).

- **Protection of Freshwater Ecological Receptors** – As discussed above, the freshwater ecological protection zone established under RWQCB Order SCR R2-2003-0080 (Plates 2 and 3; *RWQCB, 2003a*) encompasses most of the southern portion of the Site.
- **Protection of Saltwater Ecological Receptors** – As discussed above, the saltwater ecological protection zone established under RWQCB Order SCR R2-2003-0080 (Plates 2 and 3; *RWQCB, 2003a*) includes the northern portion of the Site north of the Doyle drive overpass. There is also a possibility that the Crissy Marsh area may be extended just south of Building 231 (Plates 2 and 3; *BBL, 2004*).

The applicable cleanup levels for the 207/231 were compiled from the following sources:

- RWQCB Order SCR 92-2003-0080 (*RWQCB, 2003a*) - Includes Site Cleanup Requirements (SCRs) for petroleum hydrocarbons and related constituents in soil and water adopted by the RWQCB.
- Federal and California State Maximum Contaminant Levels (MCLs) – Regulatory drinking water standards.
- Presidio-Wide Cleanup Levels (*EKI, 2002*) - In the absence of SCR or MCLs, Presidio-specific risk-based cleanup levels presented in the *Development of Presidio-wide Cleanup Levels for Soil, Sediment, Groundwater, and Surface Water* (*EKI, 2002*) were compiled.
- Point of Compliance Concentrations for TPH as diesel and TPH as fuel oil within the freshwater ecological protection zone of the Presidio presented in *Development of Freshwater TPH-Diesel and TPH-Fuel Oil Point of Compliance Concentrations, Presidio of San Francisco, San Francisco, California* (*BBL, 2004*) were compiled.
- RWQCB Environmental Screening Levels (ESLs; *RWQCB, 2003b*) – If no regulatory- or Presidio-specific cleanup level was available for a chemical, ESLs provided in *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Tier 1 Lookup Tables* (*RWQCB, 2003c*) were compiled.

The selection process for screening levels was discussed in the Data Gaps Work Plan (*MACTEC, 2004*). During this data gaps investigation, chemicals not detected during previous investigations at the Building 207/231 Area were detected in soil and/or groundwater. For these newly-detected chemicals, the selection process outlined above was used to select screening levels. The updated soil and groundwater screening levels for the detected chemicals at the site are summarized in Tables A1 and A2.



Table A1. Cleanup Levels for Soil  
Data Gaps Investigation Report  
Building 207/231 Area, Presidio of San Francisco

Chemical <sup>a</sup>	Compilation of Applicable Screening Levels											Final Screening Levels <sup>i</sup> (mg/kg)										
	Petroleum-Related <sup>d</sup>		Non Petroleum-Related					Freshwater Protection Zones		Saltwater Protection Zones												
			Background <sup>e</sup> (mg/kg)	Human Health (Residential) <sup>f</sup> (mg/kg)	Ecological (Non Special Status) (mg/kg)	Ecological (Special Status) (mg/kg)	Groundwater Protection (mg/kg)	Sediment Screening Level (mg/kg)	Basis for Screening Level	Sediment Screening Level (mg/kg)	Basis for Screening Level											
Screening Level (mg/kg)	Basis for Screening Level																					
<b>CHEMICALS FOR WHICH PRESIDIO-SPECIFIC CLEANUP LEVELS HAVE BEEN DEVELOPED <sup>b</sup></b>																						
<b>Total Petroleum Hydrocarbons (TPH)</b>																						
TPH as gasoline	100	Water Quality: <5 feet above water table	--	--	--	--	--	140	Freshwater POCC	11.6	Saltwater POCC	11.6										
TPH as diesel	115	Water Quality: <5 feet above water table	--	--	--	--	--	144	Saltwater POCC <sup>g</sup>	144	Saltwater POCC	115										
TPH as fuel oil	160	Water Quality: <5 feet above water table	--	--	--	--	--	144	Saltwater POCC <sup>g</sup>	144	Saltwater POCC	144										
TPH Unknown Diesel Hydrocarbon - USE TPH AS DIESEL																						
TPH Unknown Gasoline Hydrocarbon - USE TPH AS GAS																						
<b>Polynuclear Aromatic Hydrocarbons (PAHs)</b>																						
Benzo(a)anthracene	0.43	Human health: residential	--	0.27	40	30	--	0.54	Ecological: Freshwater	0.93	Ecological: Marine	0.27										
Benzo(a)pyrene	0.04	Human health: residential	--	0.027	40	30	--	0.74	Ecological: Freshwater	1.0	Ecological: Marine	0.027										
Benzo(b)fluoranthene	0.43	Human health: residential	--	0.27	40	30	--	0.79	Ecological: Freshwater	0.79	Ecological: Marine	0.27										
Benzo(k)fluoranthene	0.43	Human health: residential	--	0.27	40	30	--	0.79	Ecological: Freshwater	0.79	Ecological: Marine	0.27										
Benzo(b+k)flouranthene, Total	0.43	Human health: residential	--	0.27	40	30	--	0.79	Ecological: Freshwater	0.79	Ecological: Marine	0.27										
Chrysene	4.3	Human health: residential	--	2.7	40	30	--	0.67	Ecological: Freshwater	1.6	Ecological: Marine	0.67										
Dibenzo(a,h)anthracene	--	--	--	0.078	40	30	--	0.071	Ecological: Freshwater	0.16	Ecological: Marine	0.071										
Indeno(1,2,3-cd)pyrene	--	--	--	0.27	40	30	--	0.26	Ecological: Freshwater	0.26	Ecological: Marine	0.26										
<i>Total cPAH</i>	5.6	Human health: residential	--	--	--	--	--	--	--	--	--	5.6										
Acenaphthene	--	--	--	2,700	40	30	--	0.31	Ecological: Freshwater	0.32	Ecological: Marine	0.31										
Acenaphthylene	--	--	--	--	40	30	--	0.067	Ecological: Freshwater	0.34	Ecological: Marine	0.067										
Anthracene	308	Water Quality: <5 feet above water table	--	14,000	40	30	--	0.45	Ecological: Freshwater	0.59	Ecological: Marine	0.45										
Benzo(g,h,i)perylene	620	Human health: residential	--	--	40	30	--	0.25	Ecological: Freshwater	0.25	Ecological: Marine	0.25										
Fluoranthene	316	Water Quality: <5 feet above water table	--	1,800	40	30	--	1.5	Ecological: Freshwater	2.85	Ecological: Marine	1.5										
Fluorene	60	Water Quality: <5 feet above water table	--	1,800	40	30	--	0.28	Ecological: Freshwater	0.28	Ecological: Marine	0.28										
Naphthalene	9	Water Quality: <5 feet above water table	--	910	40	30	--	0.3	Ecological: Freshwater	1.1	Ecological: Marine	0.3										
Phenanthrene	86	Water Quality: <5 feet above water table	--	--	40	30	--	0.61	Ecological: Freshwater	0.87	Ecological: Marine	0.61										
Pyrene	241	Water Quality: <5 feet above water table	--	1,400	40	30	--	0.79	Ecological: Freshwater	1.6	Ecological: Marine	0.79										
<b>Metals / Inorganics</b>																						
Arsenic	--	--	3.9	0.36	64	10	--	19	Ecological: Freshwater	39	Ecological: Marine	3.9										
Barium	--	--	99	5,000	500	320	--	3,100	Ecological: Freshwater	3,100	Ecological: Marine	320										
Beryllium	--	--	0.46	140	10	10	--	7,200	Ecological: Freshwater	7,200	Ecological: Marine	10										
Cadmium	--	--	0.8	1.7	0.23	0.017	--	1.1	Ecological: Freshwater	1.6	Ecological: Marine	0.8										
Chromium	--	--	95	110,000	23	4	--	140	Ecological: Freshwater	140	Ecological: Marine	95										
Cobalt	--	--	16	4,000	48	20	--	50	Ecological: Freshwater	50	Ecological: Marine	20										
Copper	--	--	24	--	115	30	--	114	Ecological: Freshwater	152	Ecological: Marine	30										
Cyanide	--	--	--	1,000	13,000	6,300	--	--	--	--	--	1000										
Lead	50	Ecological: Terrestrial 0-3 feet bgs (leaded gas)	5.2	400	300	160	--	82	Ecological: Freshwater	132	Ecological: Marine	50										
Mercury	--	--	0.2	20	1.6	0.4	--	0.62	Ecological: Freshwater	0.43	Ecological: Marine	0.4										
Nickel	--	--	83	1,400	71	30	--	110	Ecological: Freshwater	110	Ecological: Marine	83										
Silver	--	--	1.0	360	2	2	--	1.0	Ecological: Freshwater	2.4	Ecological: Marine	1.0										
Vanadium	--	--	62	650	5	2	--	90	Ecological: Freshwater	90	Ecological: Marine	62										
Zinc	--	--	43	22,000	50	4	--	230	Ecological: Freshwater	214	Ecological: Marine	43										
<b>Volatile Organic Compounds (VOCs)</b>																						
1,4-Dichlorobenzene	--	--	--	0.13	74	20	--	0.35	Ecological: Freshwater	0.35	Ecological: Marine	0.13										
2-Butanone	--	--	--	3.8	15,000	4,200	--	--	--	--	--	3.8										
Acetone	--	--	--	0.24	68,000	8,500	--	--	--	--	--	0.24										
Benzene	0.005	Water Quality: <5 feet above water table	--	--	--	--	--	0.79	Freshwater POCC	50	Saltwater POCC	0.005										
Carbon disulfide	--	--	--	200	14,000	934	--	--	--	--	--	200										
Ethylbenzene	13	Water Quality: <5 feet above water table	--	--	--	--	--	15	Freshwater POCC	5	Saltwater POCC	5										
Methylene chloride	--	--	--	0.076	17,000	459	--	--	--	--	--	0.076										



Table A1. Cleanup Levels for Soil  
Data Gaps Investigation Report  
Building 207/231 Area, Presidio of San Francisco

Chemical <sup>a</sup>	Compilation of Applicable Screening Levels											Final Screening Levels <sup>i</sup>
	Petroleum-Related <sup>d</sup>		Non Petroleum-Related					Freshwater Protection Zones		Saltwater Protection Zones		
			Background <sup>e</sup>	Human Health (Residential) <sup>f</sup>	Ecological (Non Special Status)	Ecological (Special Status)	Groundwater Protection	Sediment Screening Level	Basis for Screening Level	Sediment Screening Level	Basis for Screening Level	
	Screening Level (mg/kg)	Basis for Screening Level	Background <sup>e</sup> (mg/kg)	Human Health (Residential) <sup>f</sup> (mg/kg)	Ecological (Non Special Status) (mg/kg)	Ecological (Special Status) (mg/kg)	Groundwater Protection (mg/kg)	Sediment Screening Level (mg/kg)	Basis for Screening Level	Sediment Screening Level (mg/kg)	Basis for Screening Level	
Toluene	1	Water Quality: <5 feet above water table	--	--	--	--	--	3	Freshwater POCC	260	Saltwater POCC	1
Xylenes	33	Water Quality: <5 feet above water table	--	--	--	--	--	5.7	Freshwater POCC	22	Saltwater POCC	5.7
Xylenes (m&p-)	33	Water Quality: <5 feet above water table	--	--	--	--	--	5.7	Freshwater POCC	22	Saltwater POCC	5.7
Xylenes (o-)	33	Water Quality: <5 feet above water table	--	--	--	--	--	5.7	Freshwater POCC	22	Saltwater POCC	5.7
Pesticides and PCBs												
4,4-DDD	--	--	--	2.0	0.53	0.049	--	0.016	Ecological: Freshwater	0.011	Ecological: Marine	0.011
Arochlor 1016	--	--	--	0.16	0.23	0.033	--	0.14	Ecological: Freshwater	0.10	Ecological: Marine	0.033
CHEMICALS FOR WHICH PRESIDIO-SPECIFIC CLEANUP LEVELS HAVE NOT BEEN DEVELOPED <sup>e</sup>												
Metals / Inorganics												
Aluminum	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds (VOCs)												
1,2-Dichlorobenzene	--	--	--	8.9	30	--	1.1	--	--	--	--	1.1
cis-1,2-Dichloroethene	--	--	--	1.6	--	--	0.19	--	--	--	--	0.19
1,2,4-Trimethylbenzene <sup>h</sup>	--	--	--	52	--	--	--	--	--	--	--	52
1,3,5-Trimethylbenzene <sup>h</sup>	--	--	--	21	--	--	--	--	--	--	--	21
2-Hexanone	--	--	--	--	--	--	--	--	--	--	--	--
Methyl tertiary butyl ether	--	--	--	2.0	--	--	0.023	--	--	190	Saltwater POCC	0.023
Tetrachloroethene	--	--	--	0.088	--	--	0.7	--	--	--	--	0.088
Trichloroethene	--	--	--	0.26	60	--	0.46	--	--	--	--	0.26
Semi-Volatile Organic Compounds (SVOCs)												
Bis(2-ethylhexyl)phthalate	--	--	--	160	--	--	66	--	--	--	--	66

Notes:  
mg/kg  
<  
--  
POCC  
ESL

Milligrams per kilogram.  
Less than.  
Not available.  
Point-of-compliance concentration.  
Environmental screening level (*RWQCB, 2003b* ).

Checked: \_\_\_\_\_  
  
Approved: \_\_\_\_\_

<sup>a</sup> Only chemicals detected in soil at the Building 207/231 Area are listed

<sup>b</sup> For chemicals for which Presidio-specific cleanup levels have been developed, the screening levels were compiled from the Presidio-Wide Cleanup Level Document*EKI, 2002* ).

<sup>c</sup> For chemicals for which Presidio-specific cleanup levels have~~not~~ been developed, the screening levels were compiled from the *RWQCB 2003b* ) ESL document, if available.

<sup>d</sup> For petroleum-related constituents, the lowest cleanup levels from the Presidio-Wide Cleanup Level Document*EKI, 2002* ) are presented. These cleanup values were adopted by the RWQCB in Order No. R2-2003-0080, Presidio-wide Site Cleanup Requirements *RWQCB, 2003a*)

<sup>e</sup> Background screening values for Colma soil formation from the Presidio-Wide Cleanup Level Document*EKI, 2002* ).

<sup>f</sup> For VOCs, the human health (residential) values listed from the Presidio-Wide Cleanup Level Document incorporate groundwater protection concern

<sup>g</sup> From: *Development of Freshwater Point of Compliance Concentrations for TPH-diesel and TPH-fuel oil* (report pending), as agreed upon in February 3, 2004 meeting with RWQCB

<sup>h</sup> For 1,2,4- and 1,3,5-trimethylbenzene, ESLs not available, so USEPA Preliminary Remediation Goals used for screening purposes

<sup>i</sup> Screening levels used for comparison are lowest of Human Health, Ecological (Non Special Status), Ecological (Special Status), Freshwater Protection Zone Screening Levels, and Saltwater Protection Zone Screening Levels. Background used if high



Table A2. Cleanup Levels for Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area, Presidio of San Francisco, California

Chemical <sup>a</sup>	Compilation of Applicable Screening Levels						Final Screening Levels <sup>f</sup> (µg/L)
	Human Health Drinking Water Screening Level (µg/L)	Basis for Screening Level	Freshwater Toxicity Screening Level <sup>d</sup> (µg/L)	Basis for Screening Level	Saltwater Toxicity Screening Level <sup>e</sup> (µg/L)	Basis for Screening Level	
<b>CHEMICALS FOR WHICH PRESIDIO-SPECIFIC CLEANUP LEVELS HAVE BEEN DEVELOPED<sup>b</sup></b>							
<b>Total Petroleum Hydrocarbons (TPH)</b>							
TPH as gasoline	770	Risk-based	443	Bioassay study	1200	Bioassay study	443
TPH as diesel	880	Risk-based	443	Bioassay study	2200	Bioassay study	443
TPH as fuel oil	1,200	Risk-based	443	Bioassay study	2200	Bioassay study	443
TPH Unknown Diesel Hydrocarbon - USE TPH AS DIESEL							443
TPH Unknown Gasoline Hydrocarbon - USE TPH AS GAS							443
<b>Polynuclear Aromatic Compounds (PAHs)</b>							
Acenaphthene	--	--	1,200	CTR	--	--	1,200
Acenaphthylene	--	--	--	--	--	--	--
Anthracene	770	Risk-based	9,600	CTR	--	--	770
Benzo(a)anthracene	0.1	Proposed MCL	0.0044	CTR	--	--	0.0044
Benzo(a)pyrene (B[a]P)	0.2	Federal MCL	0.0044	CTR	--	--	0.0044
Benzo(b)fluoranthene	0.2	Proposed MCL	0.0044	CTR	--	--	0.0044
Benzo(k)fluoranthene	2	Risk-based	0.0044	CTR	--	--	0.0044
Benzo(b+k)flouranthene, Total	0.2	Proposed MCL	0.0044	CTR	--	--	0.0044
Benzo(g,h,i)perylene	--	--	--	--	--	--	--
Chrysene	20	Risk-based	0.0044	CTR	--	--	0.0044
Fluoranthene	300	Risk-based	300	CTR	--	--	300
Fluorene	300	Risk-based	1,300	CTR	--	--	300
Indeno(1,2,3-cd)pyrene	--	--	0.0044	CTR	--	--	0.0044
Naphthalene	300	Risk-based	--	--	--	--	300
Phenanthrene	230	Risk-based	--	--	--	--	230
Pyrene	230	Risk-based	960	CTR	--	--	230
Total PAHs	26	Risk-based	0.031	Basin Plan	0.031	Basin Plan	0.031
<b>Metals / Inorganics</b>							
Arsenic	10	Federal MCL	190	Basin Plan	36	Basin Plan	10
Barium	1,000	California MCL	--	--	--	--	1,000
Cadmium	5	Federal MCL	1.1	Basin Plan	9.3	Basin Plan	1.1
Chloride	250,000	Secondary MCL	--	--	--	--	250,000
Chromium	50	California MCL	180	CTR	50	Basin Plan	50
Copper	1,000	Secondary MCL	11.8	Basin Plan	2.9	CTR	2.9
Lead	15	Federal Action Level	3.2	Basin Plan	5.6	Basin Plan	3.2
Nickel	100	California MCL	158	Basin Plan	7.1	CTR	7.1
Zinc	5,000	Secondary MCL	106	Basin Plan	58	Basin Plan	58



Table A2. Cleaupn Levels for Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area, Presidio of San Francisco, California

Chemical <sup>a</sup>	Compilation of Applicable Screening Levels						Final Screening Levels <sup>f</sup> (µg/L)
	Human Health Drinking Water Screening Level (µg/L)	Basis for Screening Level	Freshwater Toxicity Screening Level <sup>d</sup> (µg/L)	Basis for Screening Level	Saltwater Toxicity Screening Level <sup>e</sup> (µg/L)	Basis for Screening Level	
<b>Volatile Organic Compounds (VOCs)</b>							
1,1,1-Trichloroethane	200	Federal MCL	--	--	--	--	200
1,2-Dichloroethane	0.5	California MCL	0.38	CTR	--	--	0.38
1,4-Dichlorobenzene	5	California MCL	400	CTR	--	--	5
2-Butanone	--	--	--	--	--	--	--
Benzene	1	California MCL	463	Bioassay study	510	Bioassay study	1
Chlorobenzene	70	California MCL	680	CTR	--	--	70
Chloroform	80	Federal MCL	--	--	--	--	80
cis-1,2-Dichloroethene	6	California MCL	--	--	--	--	6
1,2-Dichloroethene (cis & trans)	6	California MCL	--	--	--	--	6
Ethylbenzene	700	Federal MCL	845	Bioassay study	43	Bioassay study	43
Methylene chloride	5	Federal MCL	4.7	CTR	--	--	4.7
Tetrachloroethene	5	Federal MCL	0.8	CTR	--	--	0.8
Toluene	150	California MCL	490	Bioassay study	1000	Bioassay study	150
Trichloroethene	5	Federal MCL	2.7	CTR	--	--	2.7
Trichlorofluoromethane	150	California MCL	--	--	--	--	150
Xylenes	1,750	California MCL	318	Bioassay study	130	Bioassay study	130
Xylenes (m&p-)	1,750	California MCL	318	Bioassay study	130	Bioassay study	130
Xylenes (o-)	1,750	California MCL	318	Bioassay study	130	Bioassay study	130
<b>Polychlorinated Biphenyls (PCBs)</b>							
PCB 1016	0.5	Federal MCL	0.00017	CTR	0.03	CTR	0.00017



Table A2. Cleanup Levels for Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area, Presidio of San Francisco, California

Chemical <sup>a</sup>	Compilation of Applicable Screening Levels						Final Screening Levels <sup>f</sup> (µg/L)
	Human Health Drinking Water Screening Level (µg/L)	Basis for Screening Level	Freshwater Toxicity Screening Level <sup>d</sup> (µg/L)	Basis for Screening Level	Saltwater Toxicity Screening Level <sup>e</sup> (µg/L)	Basis for Screening Level	
<b>CHEMICALS FOR WHICH PRESIDIO-SPECIFIC CLEANUP LEVELS HAVE NOT BEEN DEVELOPED<sup>c</sup></b>							
<b>Metals / Inorganics</b>							
Aluminum	1,000	California MCL	--	--	--	--	1,000
Calcium	--	--	--	--	--	--	--
Cobalt	140	ESL - Human health	3.0	ESL - Aquatic life	3.0	ESL - Aquatic life	3.0
Iron	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--
Manganese	--	--	--	--	--	--	--
Nitrate	10,000	Federal MCL	--	--	--	--	10,000
Potassium	--	--	--	--	--	--	--
Sodium	--	--	--	--	--	--	--
Vanadium	15	ESL - Human health	19	ESL - Aquatic life	19	ESL - Aquatic life	15
<b>Volatile Organic Compounds</b>							
1,1,2,2-Tetrachloroethane	1	California MCL	420	ESL - Aquatic life	420	ESL - Aquatic life	1
1,1,2-Trichloroethane	5	California MCL	4700	ESL - Aquatic life	4700	ESL - Aquatic life	5
1,2,4-Trimethylbenzene	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	California MCL	14	ESL - Aquatic life	14	ESL - Aquatic life	14
1,1,-Dichloroethane	5	California MCL	47	ESL - Aquatic life	47	ESL - Aquatic life	5
1,2-Dichloropropane	5	California MCL	1500	ESL - Aquatic life	1500	ESL - Aquatic life	5
1,3,5-Trimethylbenzene	--	--	--	--	--	--	--
1,3-Dichlorobenzene	6.3	ESL - Human health	65	ESL - Aquatic life	65	ESL - Aquatic life	6.3
Acetone	700	ESL - Human health	1500	ESL - Aquatic life	1500	ESL - Aquatic life	700
Bromoform	100	California MCL	3200	ESL - Aquatic life	3200	ESL - Aquatic life	100
Carbon dioxide	--	--	--	--	--	--	--
Carbon disulfide	--	--	--	--	--	--	--
Chloromethane	2.7	ESL - Human health	3200	ESL - Aquatic life	3200	ESL - Aquatic life	2.7
Ethane	--	--	--	--	--	--	--
Ethene	--	--	--	--	--	--	--
Methane	--	--	--	--	--	--	--
Methyl t-butyl ether	13	California MCL	8000	ESL - Aquatic life	4400	Bioassay study	13
sec-Butylbenzene	--	--	--	--	--	--	--
Styrene	100	California MCL	100	ESL - Aquatic life	100	ESL - Aquatic life	100
tert-Butylbenzene	--	--	--	--	--	--	--
Vinyl chloride	0.5	California MCL	780	ESL - Aquatic life	780	ESL - Aquatic life	0.5



Table A2. Cleanup Levels for Groundwater  
Data Gaps Investigation Report  
Building 207/231 Area, Presidio of San Francisco, California

Chemical <sup>a</sup>	Compilation of Applicable Screening Levels						Final Screening Levels <sup>f</sup> (µg/L)
	Human Health Drinking Water Screening Level (µg/L)	Basis for Screening Level	Freshwater Toxicity Screening Level <sup>d</sup> (µg/L)	Basis for Screening Level	Saltwater Toxicity Screening Level <sup>e</sup> (µg/L)	Basis for Screening Level	

Notes:

µg/L	Micrograms per liter.
--	Not available.
MCL	Maximum contaminant level.
CTR	California Toxics Rule.
cPAH	Carcinogenic polycyclic aromatic hydrocarbons.
ESL	Environmental screening level ( <i>RWQCB, 2002b</i> ).
FPALDR	Fuel Product Action Level Development Report ( <i>MW, 1995</i> ).
DHS	Department of Health Services.
SW	Surface water.
EPA	U.S. Environmental Protection Agency.

<sup>a</sup> Only chemicals detected in groundwater at the Building 207/231 Area are listed.

<sup>b</sup> For chemicals for which Presidio-specific cleanup levels have been developed, the screening levels were compiled from the Presidio-Wide Cleanup Level Document (*EKI, 2002*). For human health, these screening levels comprise of MCLs or risk-based values developed in the FPALDR (*MW, 1995b*). For freshwater or saltwater toxicity, these screening levels comprise of Basin Plan, CTR, or bioassay study values.

<sup>c</sup> For chemicals for which Presidio-specific cleanup levels have not been developed, the screening levels were compiled from the RWQCB (2002b) ESL document. For human health, these screening levels comprise of MCLs or risk-based values. For freshwater or saltwater toxicity, these screening levels comprise of RWQCB (2002b) ESLs for aquatic life.

<sup>d</sup> Values apply to freshwater surface water and groundwater that may exfiltrate directly to surface water, such as the Tennessee Hollow Riparian Corridor upon enhancement.

<sup>e</sup> Values apply to marine or saltwater environments.

<sup>f</sup> Screening levels used for comparison are lowest of Human Health, Freshwater, and Saltwater Toxicity values.

Checked: \_\_\_\_\_

Approved: \_\_\_\_\_



## APPENDIX B

### GEOPHYSICAL METHODOLOGY



## APPENDIX B PLATES

- B1 Geophysical Survey Area Location
- B2 Magnetic Survey Results – Analytic Signal Display, Building 231 Geophysical Investigation
- B3 EM31 Terrain Conductivity Survey Results, Building 231 Geophysical Investigation
- B4 Magnetic Survey Results – Analytic Signal Display, Building 207 Geophysical Investigation
- B5 EM31 Terrain Conductivity Survey Results, Building 207 Geophysical Investigation
- B6 Magnetic Survey Results – Analytic Signal Display, Building 38 Geophysical Investigation
- B7 EM31 Terrain Conductivity Results, Building 38 Geophysical Investigation
- B8 Building 208 Sump Investigation Area



## APPENDIX B GEOPHYSICAL METHODOLOGY

The areas geophysically cleared and searched included:

- All boring locations
- An approximately 130- by 160-foot rectangular area for the possible Building 38 UST
- An approximately 120- by 120-foot area for the possible Building 207 USTs
- An approximately 120- by 120-foot area for the possible Building 208 piping
- An approximately 160- by 120-foot area for the possible Building 231 USTs.

The investigation grids are shown on Plate B1. The investigation was conducted by a MACTEC geophysicist using three geophysical methods: magnetics (MAG), electromagnetics (EM), and ground penetrating radar (GPR).

### Field Procedures

Beginning March 22, 2004, MACTEC marked and cleared proposed boring locations. Proposed sampling locations were marked with white spray paint, then cleared for subsurface utilities. The white spray paint mark consisted of an "X" in the middle of a circle and the borehole identification number. Following field marking of the proposed sampling locations, subsurface utility clearance was performed at each of the proposed sample locations using an EM conductivity meter, GPR, and pipe and cable locator. As part of the clearance, identified underground utilities were marked within a 2- to 3-foot radius of each of the proposed sample locations. After the borings were cleared, the boring locations were surveyed with a global positioning system (GPS). In addition to MACTEC's utility location, clearance personnel from the Trust marked active utility lines. Because of the presence of subsurface utility lines at individual boring locations, some proposed boring locations were moved to avoid drilling into the utility lines. Some borings were moved from the initial locations shown in the Work Plan to avoid utility conflicts.

The geophysical field work for the possible UST and piping search was performed in four stages:

1. Utility locating surveys
2. EM and MAG metal-detecting surveys
3. Follow-up GPR transects to further investigate anomalous areas to characterize the source of observed MAG and EM anomalies
4. Results map preparation.

The investigation areas were first scanned with the RD-400 and Fisher M-scope utility locating instruments so that responses from buried utilities would not be mistaken for UST indications. Next, EM and MAG metal-detecting instruments were used to search for buried metal objects (i.e., potential USTs). The EM and MAG methods were used for deeper subsurface scanning. These methods have an

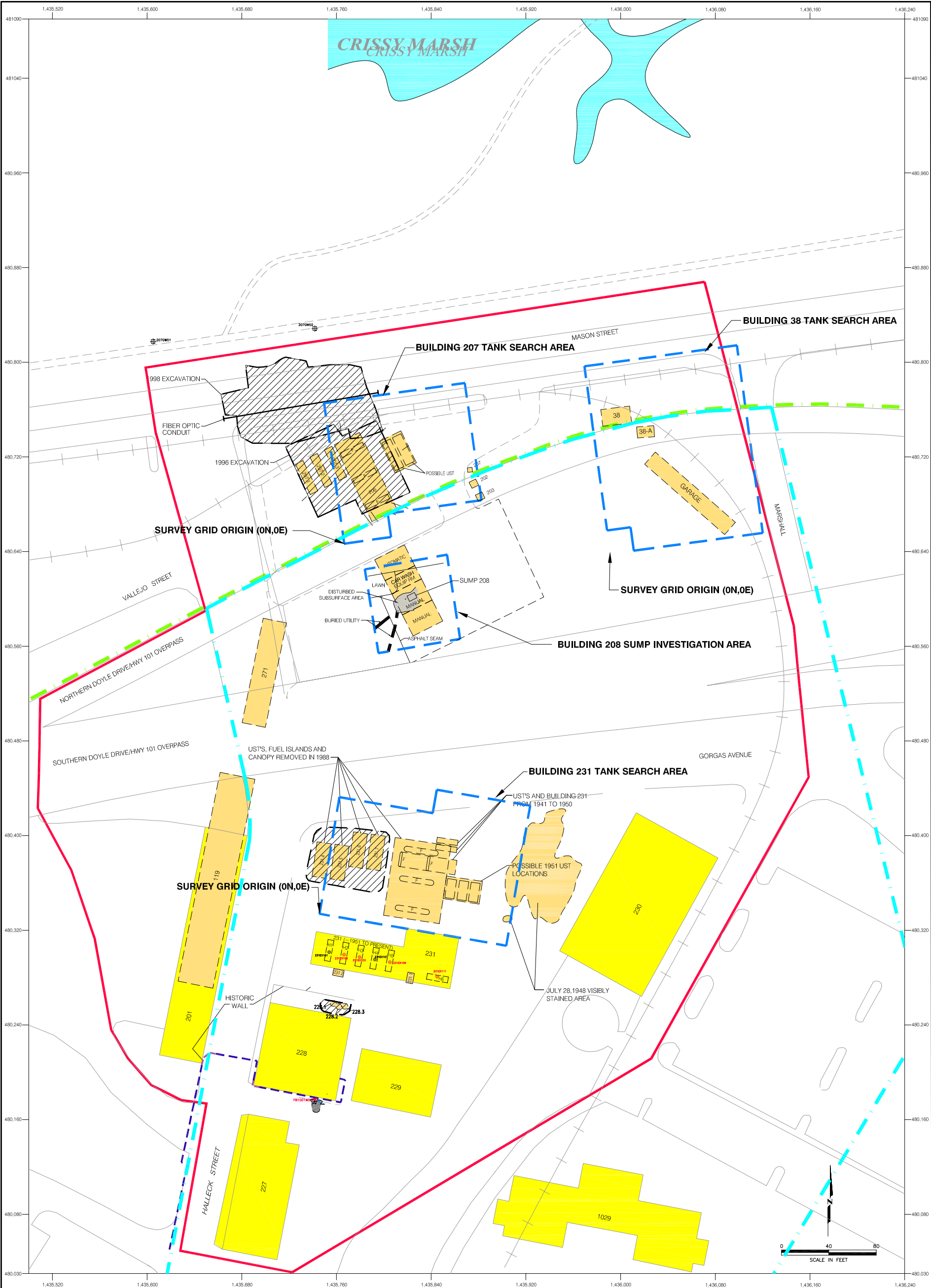


investigation depth in excess of 10 feet bgs for large metal objects such as a UST. EM and MAG profiles were obtained along north-south transects spaced 10 feet apart (Plate B1). MACTEC uses EM and MAG, in addition to GPR, for UST searches to increase the investigation depth beyond what GPR typically provides. EM and MAG surveys were effectively limited to the open areas (Plates B2 through B7) because interference from reinforcing metal in the building, vehicle overpasses, and metal fences made the data unusable within 15 feet of those structures.

Finally, the GPR survey was performed. GPR profiles were obtained along north-south and east-west transects spaced 10 feet apart over areas of anomalous EM and MAG responses (Plates B2 through B7). Position marks were placed on the GPR profiles at ten-foot intervals as the GPR antenna was hand pulled along the surveyed reference grid lines. GPR profiles were inspected in the field for UST images. GPR penetration depth is estimated to be approximately 2 to 4 feet below ground surface (bgs) in the Building 207/231 area. Approximately 700 linear feet of GPR data were obtained. At Sump 208, only utility location was performed using a pipe and cable locator and GPR (Plate B8).

During the geophysical search activities, the inside of Building 228 was inspected at the location where the FDS pipeline previously entered Building 228. No obvious indications of a subsurface or surface fuel oil tank were observed. A large metal boiler was present near the location where the FDS pipeline would have entered the building, preventing the use of geophysical methods to search for a potential UST beneath the building slab. Therefore, DQO 2 cannot be met using geophysical methods.





**EXPLANATION**

- |  |  |  |   |
|--|--|--|---|
|  | GEOPHYSICAL INVESTIGATION AREA                           |  | FORMER HYDRAULIC LIFT                         |
|  | EXISTING STRUCTURE                                       |  | FORMER FUEL ISLAND                            |
|  | FORMER STRUCTURE OR FEATURE                              |  | REMOVED FUEL DISTRIBUTION PIPELINE            |
|  | BUILDING 207/231 AREA                                    |  | ABANDONED IN-PLACE FUEL DISTRIBUTION PIPELINE |
|  | SALTWATER PROTECTION ZONE (NORTH OF GREEN LINE)          |  | FORMER RAILROAD TRACKS                        |
|  | FRESHWATER PROTECTION ZONE (SOUTH AND EAST OF BLUE LINE) |  | GPR ANOMALY                                   |
|  | PREVIOUS SOIL EXCAVATION AREA                            |  | BURIED UTILITY                                |
|  | FORMER HYDRAULIC LIFT                                    |  | LIMIT OF FORMER PAVED SURFACE                 |
|  | FORMER HYDRAULIC LIFT                                    |  |   |



**MACTEC**

DRAWN  
PH

JOB NUMBER  
4089041001 103

APPROVED  
MGB

DATE

REVISED DATE  
4/04

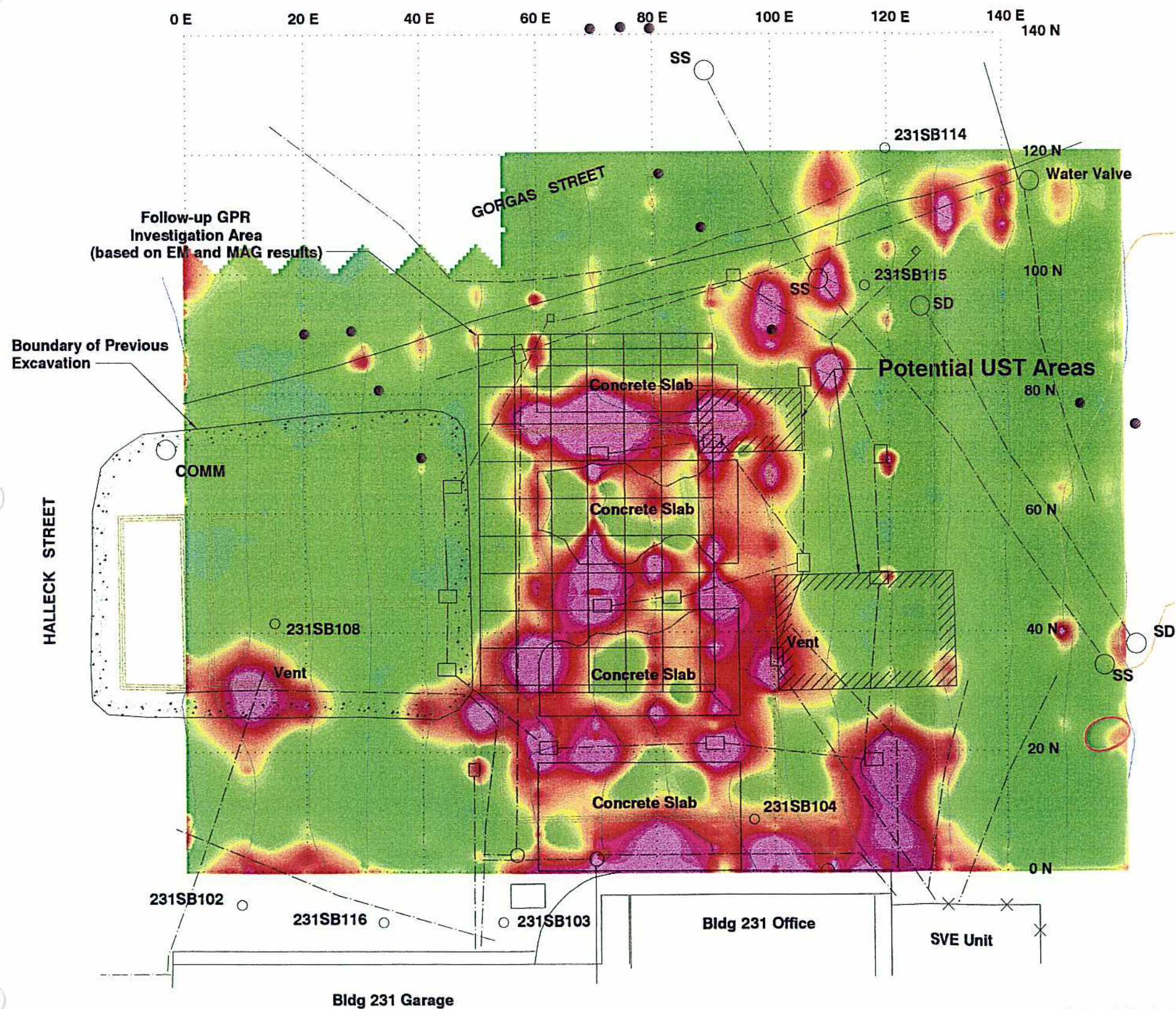
**GEOPHYSICAL SURVEY AREA LOCATION**  
BUILDING 207/231 DATA GAPS FIELD INVESTIGATION  
PRESIDIO OF SAN FRANCISCO  
SAN FRANCISCO, CALIFORNIA

Plate

**B1**

4089041001008.DWG  
20041216.1005  
0.0





## EXPLANATION



Total Magnetic Field Data Profile



Approximate Extent of Ferrous Metal



Buried Utility: SD = Storm Drain, NG = GAS, W = Water  
COMM = Communications

231SB115



Proposed Boring



Existing Well

GPR

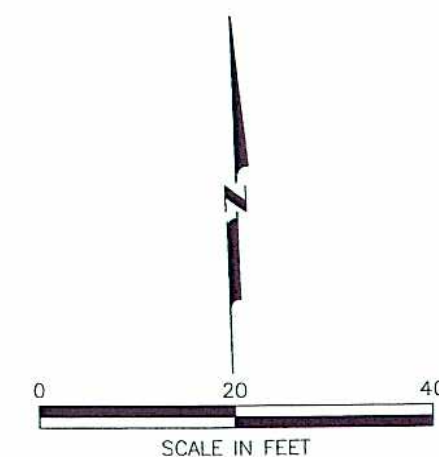
Ground Penetrating Radar



Former Structure Location



Stained Soil Area



**Magnetic Survey Results - Analytic Signal Display**  
Building 231 Geophysical Investigation  
Building 207/231 Area  
Presidio Trust  
San Francisco, California

PLATE

**B2**

DRAWN

JOB NUMBER  
4090041001.102

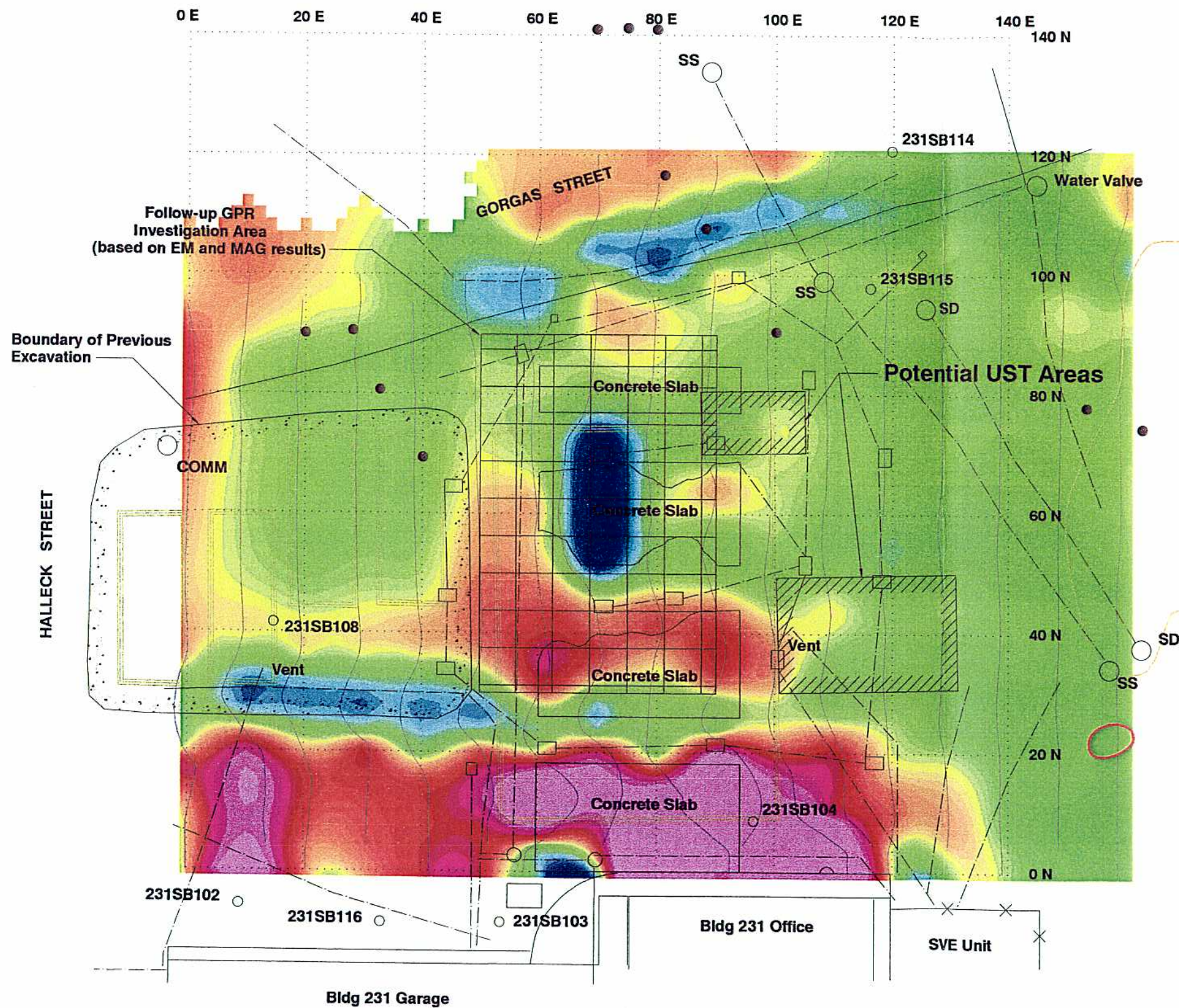
APPROVED

(Signature)

DATE  
04/04

REVISED DATE





## EXPLANATION

Terrain Conductivity Data Profile

Buried Utility: SD = Storm Drain, NG = GAS, W = Water  
COMM = Communications

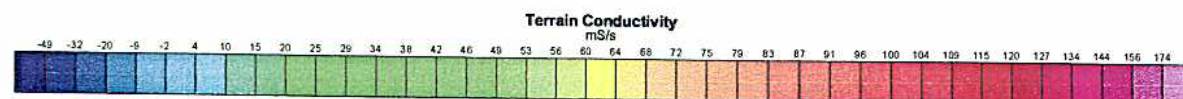
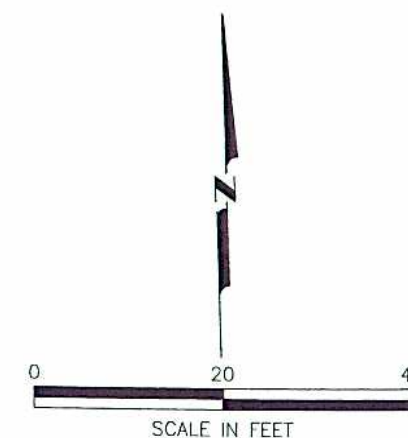
Proposed Boring

Existing Well

Ground Penetrating Radar

Former Structure Location

Stained Soil Area



DRAWN  
BWH

JOB NUMBER  
4089041001 102

EM31 Terrain Conductivity Survey Results  
Building 231 Geophysical Investigation  
Building 207/231 Area  
Presidio Trust  
San Francisco, California

APPROVED

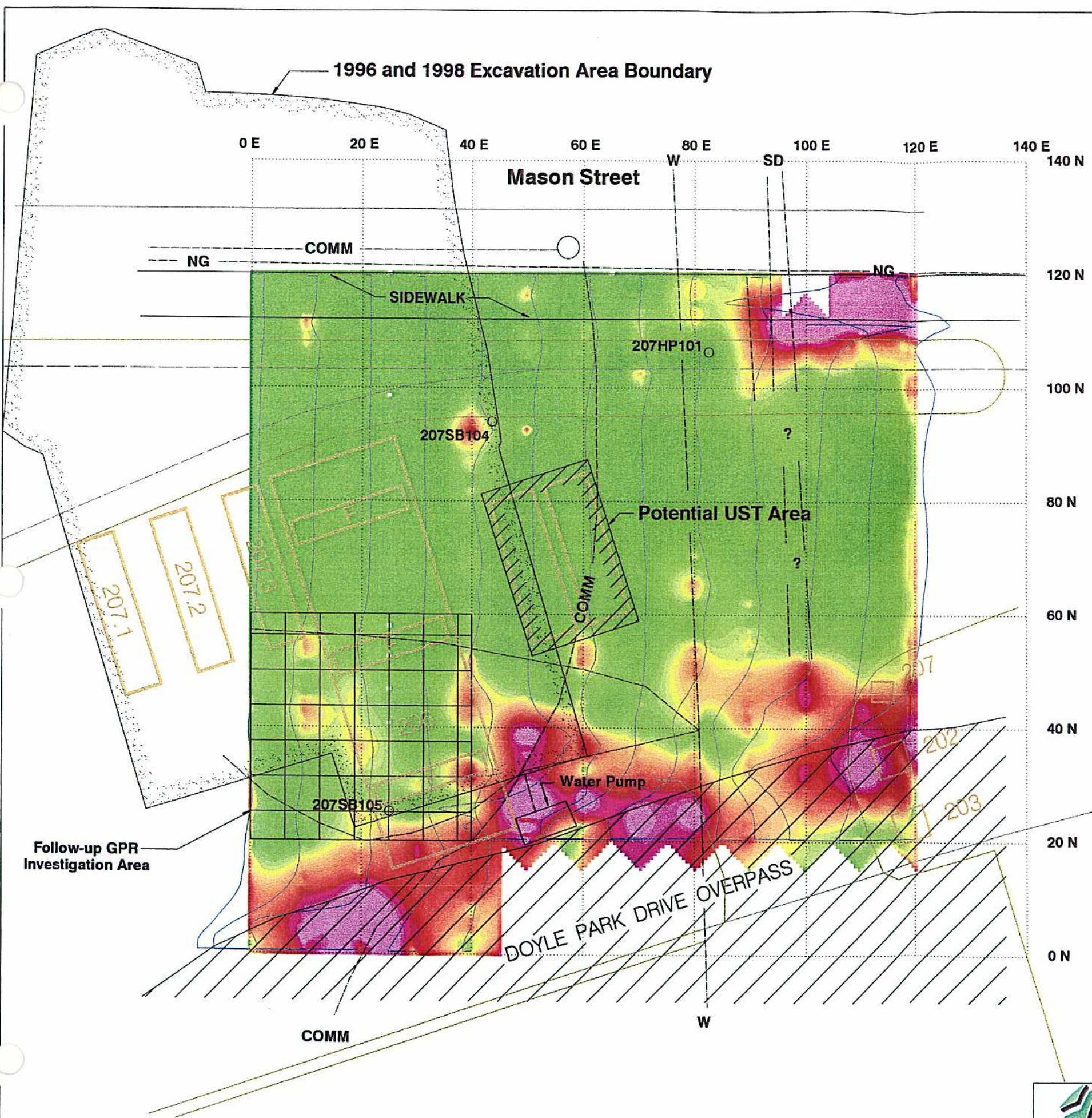
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04/04

PLATE

**B3**

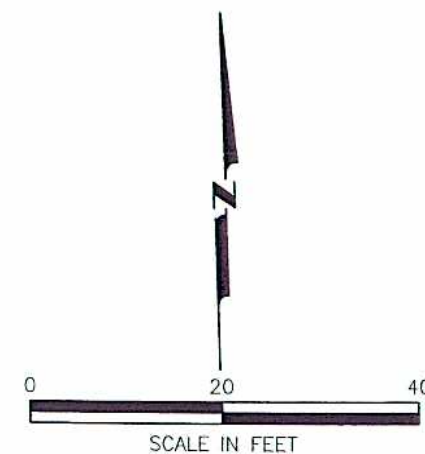
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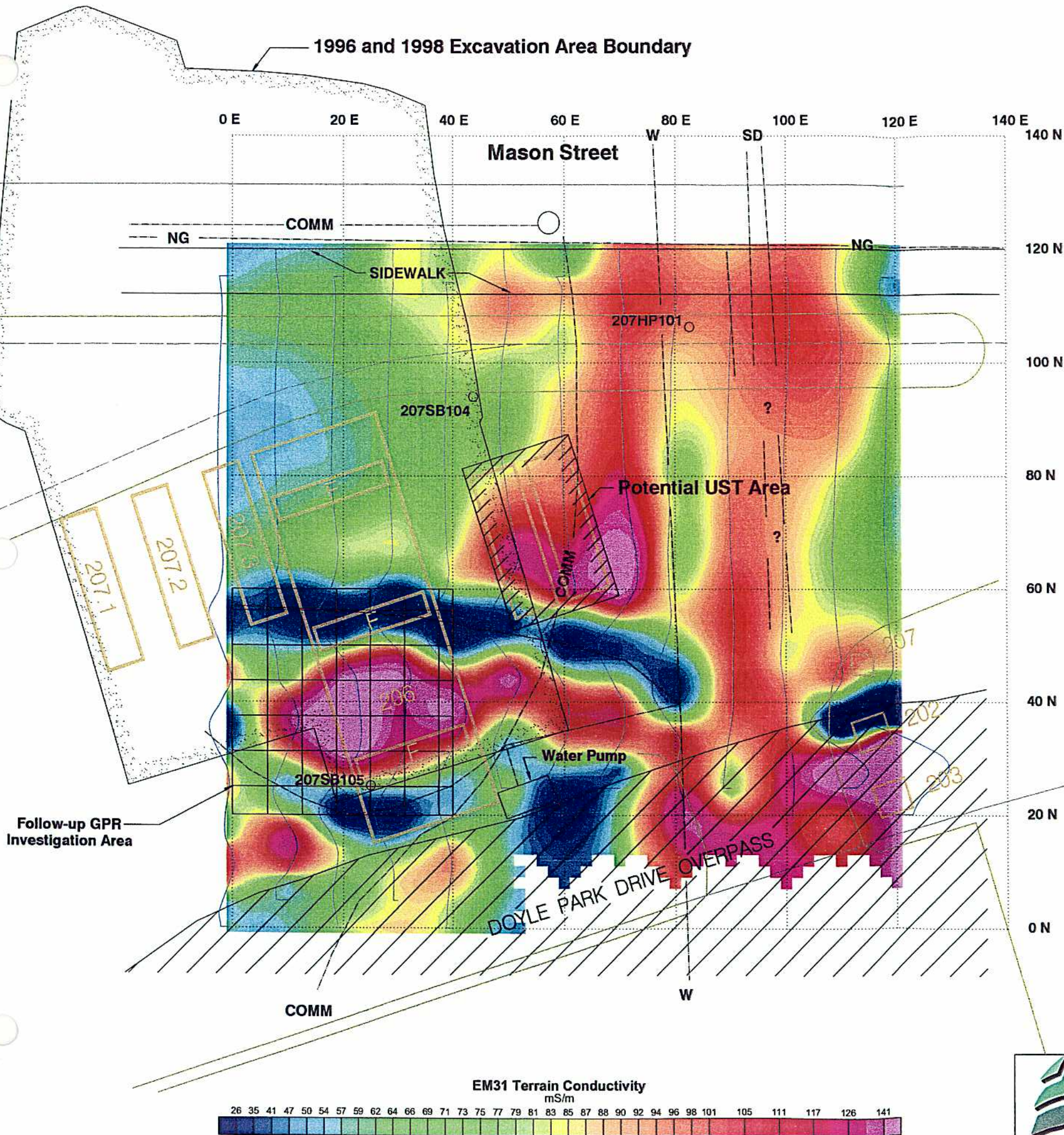


## EXPLANATION

-  Total Magnetic Field Data Profile
-  Approximate Extent of Ferrous Metal
-  Buried Utility: SD = Storm Drain, NG = GAS, W = Water  
COMM = Communications
-  Proposed Boring
-  Ground Penetrating Radar
-  Former Structure Location







## EXPLANATION



Terrain Conductivity Data Profile



Buried Utility: SD = Storm Drain, NG = GAS, W = Water  
COMM = Communications



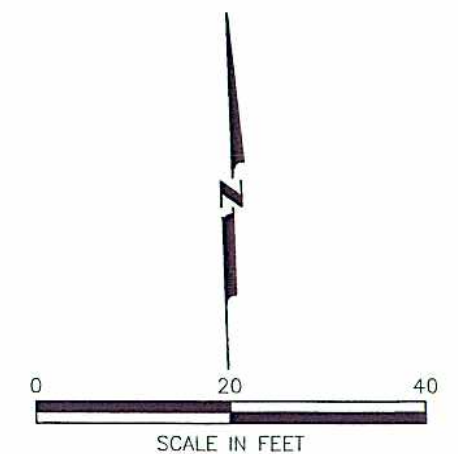
Proposed Boring

GPR

Ground Penetrating Radar



Former Structure Location

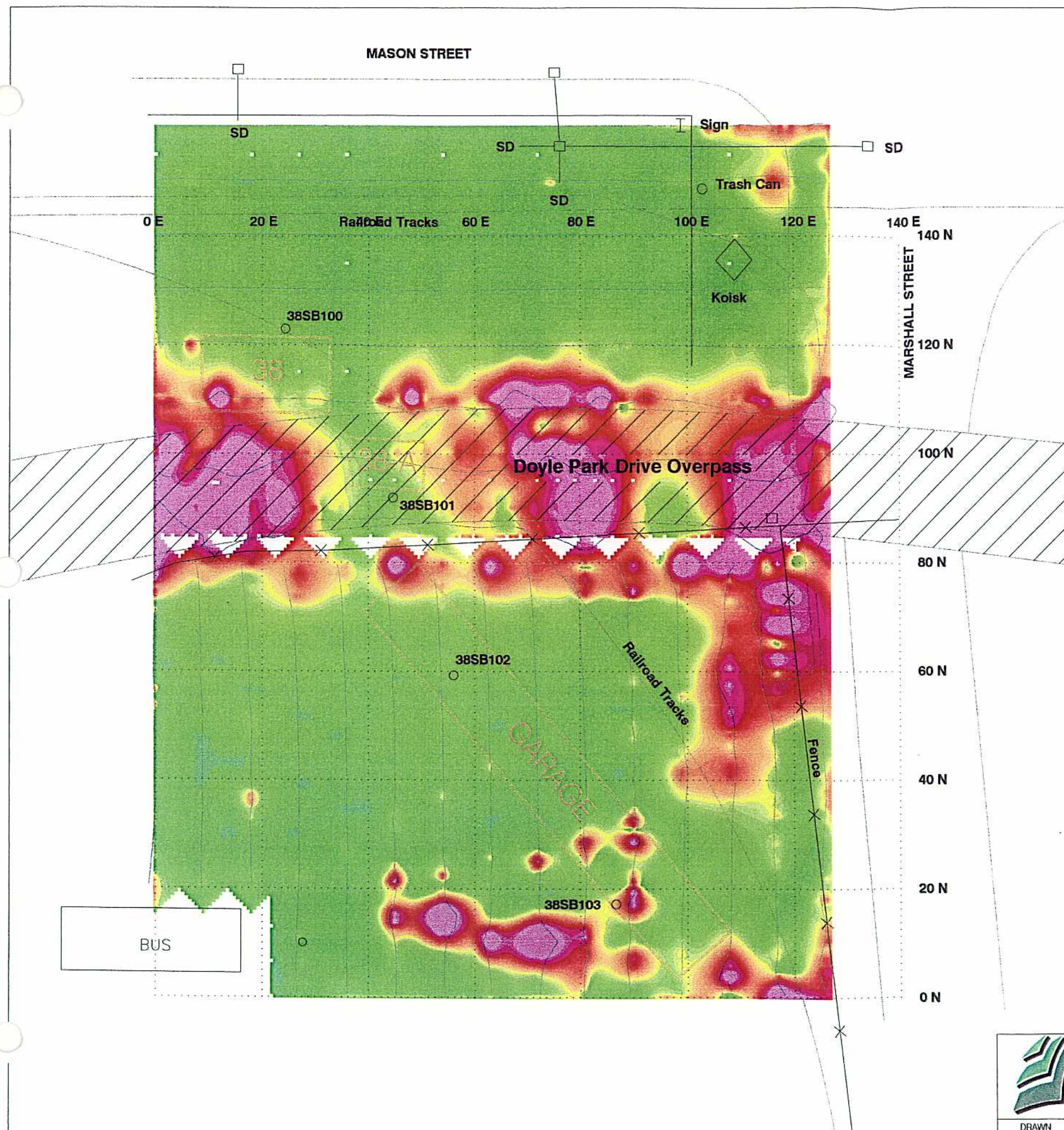


**EM31 Terrain Conductivity Survey Results**  
Building 207 Geophysical Investigation  
Building 207/231 Area  
Presidio Trust  
San Francisco, California

PLATE

**B5**





# EXPLANATION



Total Magnetic Field Data Profile



Approximate Extent of Ferrous Metal



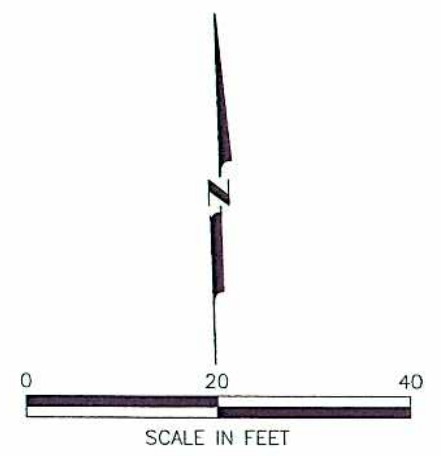
Buried Utility: SD = Storm Drain, NG = GAS, W = Water  
COMM = Communications



Proposed Boring



Former Structure Location



## Magnetic Survey Results- Analytic Signal Display

Building 38 Geophysical Investigation  
Building 207/231 Area  
Presidio Trust  
San Francisco, California

PLATE

**B6**

DRAWN  
BWH

JOB NUMBER  
4089041001 102

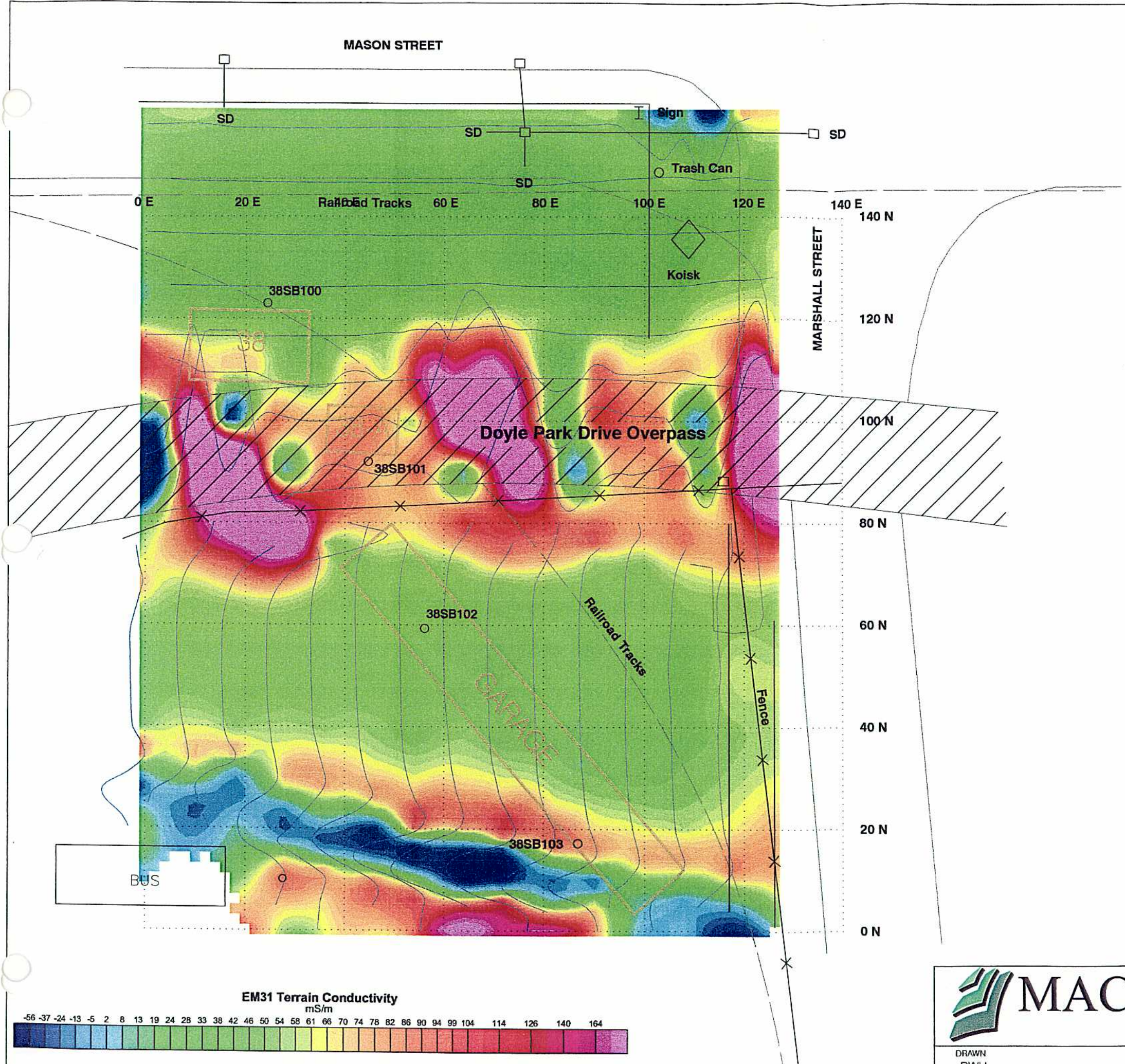
APPROVED



DATE  
04/04

REVISED DATE





# EXPLANATION



Terrain Conductivity Data Profile



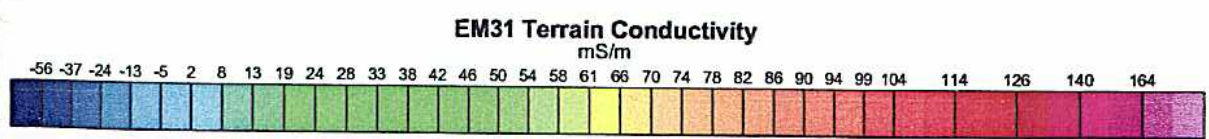
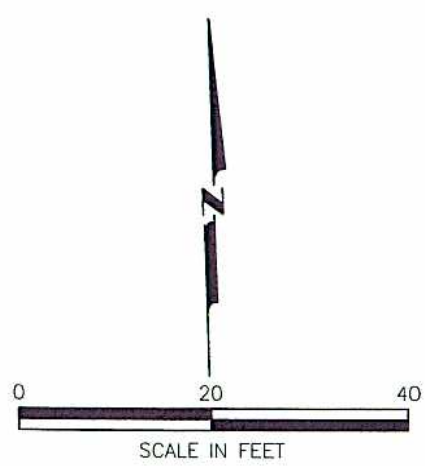
Buried Utility: SD = Storm Drain, NG = GAS, W = Water  
COMM = Communications



Proposed Boring



Former Structure Location



**EM31 Terrain Conductivity Survey Results**  
Building 38 Geophysical Investigation  
Building 207/231 Area  
Presidio Trust  
San Francisco, California

PLATE  
**B7**

DRAWN  
BWH

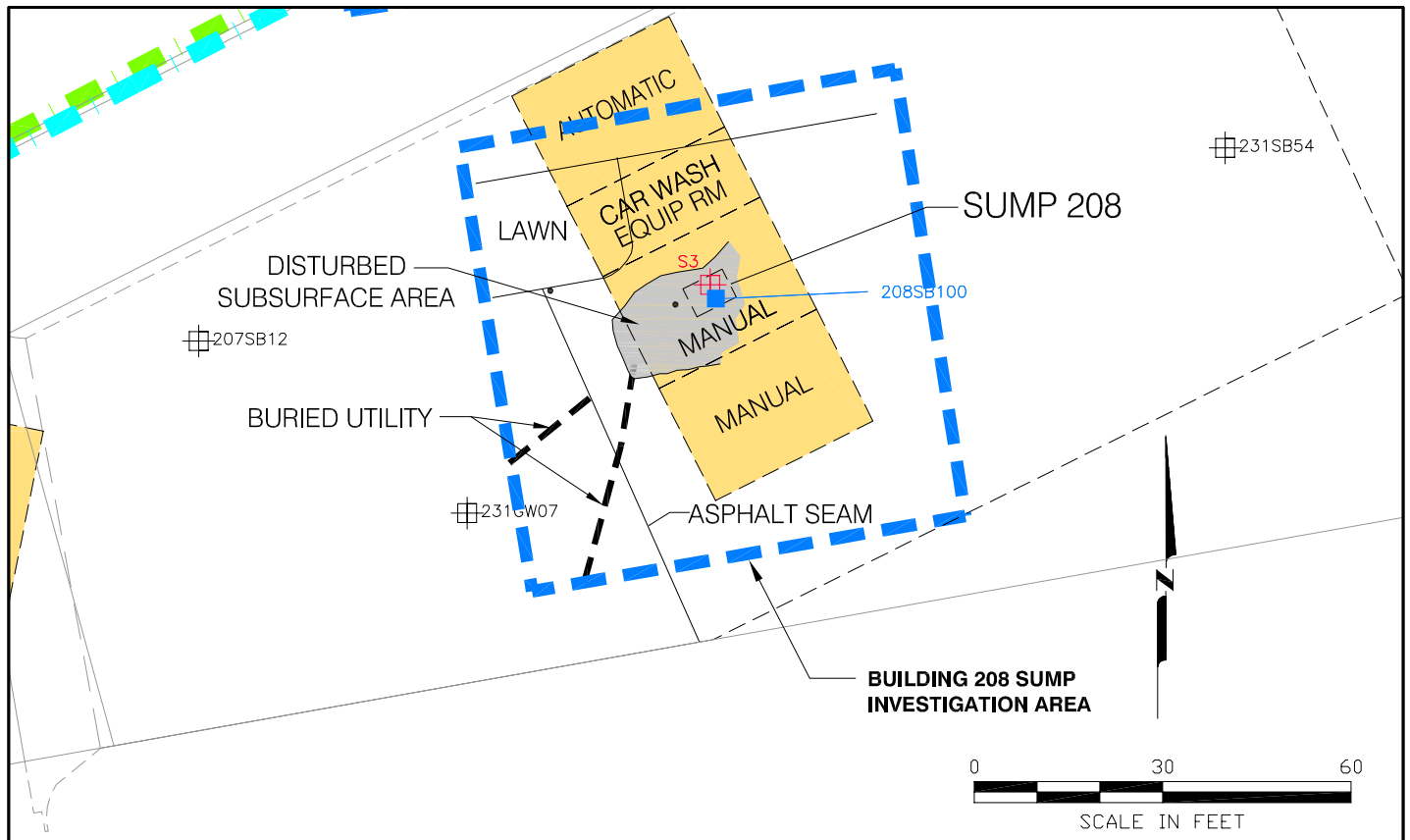
JOB NUMBER  
4089041001 102

APPROVED










DATE  
04/04

REVISED DATE





### EXPLANATION

-  GEOPHYSICAL INVESTIGATION AREA
-  FORMER STRUCTURE OR FEATURE
-  SALTWATER PROTECTION ZONE (NORTH OF GREEN LINE)
-  FRESHWATER PROTECTION ZONE (SOUTH AND EAST OF BLUE LINE)
-  FORMER SUMP
-  PREVIOUS SOIL BORING LOCATION
-  GPR ANOMALY
-  BURIED UTILITY
-  LIMIT OF FORMER PAVED SURFACE

4089041001007.DWG 30.0  
20041216.1007



# MACTEC

**BUILDING 208 SUMP INVESTIGATION AREA**  
PRESIDIO OF SAN FRANCISCO  
SAN FRANCISCO, CALIFORNIA

Plate

## B8

DRAWN PH	JOB NUMBER 4089041001 103	APPROVED	DATE	REVISED DATE 8/04
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## APPENDIX C

### EXPLORATORY BORING LOGS



Date 4/7/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0

OLIVE BROWN SILTY SAND (SM) (2.5Y 4/4) Loose, moist, 80% fine sand, 20% silt

VERY DARK GRAYISH BROWN LEAN CLAY WITH SAND (CL) (2.5Y 3/2) Medium dense, moist, 40% clay, 20-30% silt, 30-40% fine sand, common oxidation stained and gritty nodules

YELLOWISH BROWN CLAYEY SAND (SC) (10YR 3/4) Medium dense to loose, moist to wet, 70-80% fine sand, 20-30% clay

OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2) Loose, moist

DARK GREENISH GRAY LEAN CLAY (CL) (5GY 4/1) Soft, moist, 70% clay, 30% silt

BLACK SILT WITH SAND (ML) (5Y 2.5/1)

Firm, moist, 80% silt, 20% fine sand

OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2) Loose, moist

5

10

Bottom of boring at 10.5 ft. Groundwater sample collected at 10.5 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 38SB100

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, CaliforniaDRAWN  
PCBJOB NUMBER  
4089041001.102

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DATE  
12/04

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C1



BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

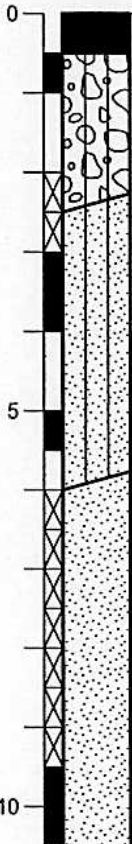
GROUND SURFACE

PID Reading  
(ppm)

ND

ND

Depth (ft.)  
Sample



Date 4/7/04  
 Driller Precision  
 Drilling Method Direct Push  
 Sampler Butyrate Liner  
 Hammer Weight NA Drop NA  
 Logged by WJF Datum   
 Surface Elevation  Hole Dia. 2.5 inches  
 Northing  Easting

ASPHALT

DARK OLIVE BROWN SILTY GRAVEL WITH SAND (GM) 2.5Y 3/3 Loose to medium dense, dry, 50% fine to coarse chert and other lithic gravel, 30% fine to coarse sand, 20% silt [FILL]

DARK GREENISH GRAY SILTY SAND (SM) (5GY 4/1) Medium dense, moist, 60-70% fine sand, 30-40% silt

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5G 4/1) Loose, wet, 90-95% fine sand, 5-10% silt

Bottom of boring at 10.5 ft. Groundwater sample collected at 10.5 ft.

PLATE



MACTEC

**Log of Boring 38SB101**

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

**C2**

DRAWN  
PCB

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/7/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)

ND

ND

ND

Depth (ft.)  
Sample

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

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16

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67

ASPHALT

VERY DARK GRAYISH BROWN SILT  
WITH GRAVEL (SM) (10R 3/2) Medium  
dense, dry, 50% silt, 30% fine to medium  
sand, 20% fine to coarse mostly chert  
gravel [Fill]VERY DARK GRAY SANDY SILT (ML) (5Y  
3/1) Medium firm, dry, 50-60% silt, 40-50%  
fine sand, trace brick debris [Fill]DARK OLIVE GRAY SILT WITH SAND  
(ML) (5Y 3/2) Soft to medium firm, moist,  
60% silt, 20% fine sand, 20% clayDARK GREENISH GRAY FAT CLAY WITH  
SAND (CH) (5GY 4/1) Firm, moist, 60%  
clay, 20% fine sand, 20% silt, trace fibrous  
materialDARK GREENISH GRAY SILTY SAND  
(SM) (5G 1/1) Medium dense, wet, 70% fine  
sand, 30% siltDARK GREENISH GRAY SILTY SAND  
(SM) (5G 4/1) Loose, wet, 70-90% fine  
sand, 10-30% silt

@ 10 ft.: Black organic clay lens, 1 in. thick

Bottom of boring at 12 ft. Groundwater  
sample collected at 12 ft.

BORING WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



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## Log of Boring 38SB102

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C3

DRAWN  
PCBJOB NUMBER  
4089041001.102

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DATE  
12/04

REVISED DATE



Date 4/6/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF DatumSurface Elevation                      Hole Dia. 2.5 inchesNorthing                      Easting                     

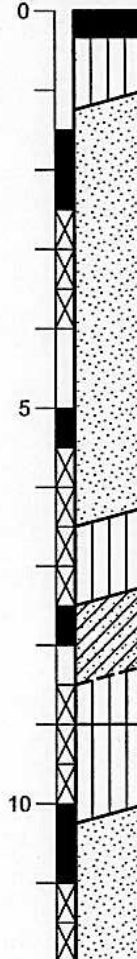
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

ND



ASPHALT

VERY DARK GRAYISH BROWN SANDY  
SILT (ML) (2.5Y 3/2) 60% silt, 40% fine  
sandOLIVE BROWN POORLY GRADED SAND  
(SP) (2.5Y 4/4) Loose, moist, 90% fine  
sand, 10% silt, trace shell fragments [FILL]@ 3.5 ft.: Color change to DARK  
GREENISH GRAY (5G 4/1)

@ 3.7 ft.: 1 in thick BLACK silty lens

DARK OLIVE BROWN SILT WITH SAND  
(ML) (2.5Y 3/3) Soft, moist to wet, 80% silt,  
20% fine sandDARK GREENISH GRAY CLAYEY SAND  
(SC) (5GY 4/1) Medium dense, wet, 80%  
fine sand, 20% clayDARK GREENISH GRAY SANDY SILT  
(ML) (5GY 4/1) Soft, wet, 60% silt, 40% fine  
sand, trace shell fragments and black  
organic debrisBLACK SILT (ML) (N2.5/) Soft, wet, 100%  
organic silt, trace shell fragments and gravel@ 9.7 ft.: Change to DARK GREENISH  
GRAY siltDARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5G 4/1) 90-95% fine  
sand, 5-10% SILTBottom of boring at 12 ft. Groundwater  
sample collected at 12 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 38SB103

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California**C4**DRAWN  
PCBJOB NUMBER  
4089041001.102

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DATE  
12/04

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BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

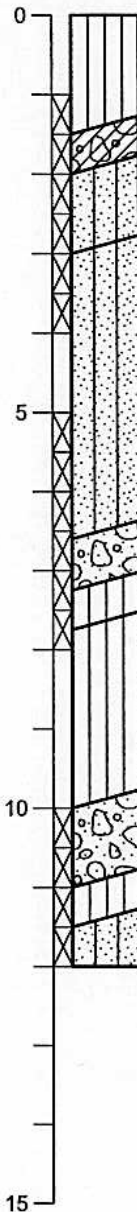
GROUND SURFACE

PID Reading  
(ppm)

ND

ND

Depth (ft.)  
Sample



DARK YELLOWISH BROWN SANDY SILT (ML) (10YR 4/6) Loose, moist, 70% silt, 30% fine sand, trace brick debris, grass & roots

VERY DARK GRAYISH BROWN CLAYEY GRAVEL (GC) (2.5Y 3/2) Medium dense, moist [Fill]

VERY DARK GRAYISH BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/2) Medium dense, moist, 40% fine to medium sand, 30% fine multi-lithic gravel, 30% silt, trace brick debris [Fill]

VERY DARK GRAYISH BROWN SILTY SAND (SM) (2.5Y 3/2) Medium dense, moist, 80% fine sand, 20% silt, trace brick debris [Fill]

@ 6.5 ft.: Woven plastic tarp material directly overlies granitic rocks below  
GRAY WELL GRADED GRAVEL (GW) (5Y 6/1) Loose, wet, granitic derived fine gravel, fine to medium sand [Fill]

VARY DARK GRAYISH BROWN SANDY SILT (ML) (2.5Y 3/2) Stiff, moist, 60% silt, 40% fine sand, abundant wood debris [Fill]  
BLACK SANDY SILT WITH GRAVEL (ML) (N2.5/) Soft to medium firm, 60% silt, 25% fine sand, 15% fine gravel [Fill]

GRAY WELL GRADED GRAVEL (GW) (5Y 6/1) Loose, wet, fine gravel, fine to medium sand [Fill]

BLACK SANDY SILT WITH GRAVEL (ML) (N2.5/) Soft to medium firm, 60% silt, 25% fine sand, 15% fine gravel

DARK GREENISH GRAY SILTY SAND (SM) (5G 4/1) Medium dense, wet, 60% fine sand, 40% silt

Bottom of boring at 12 ft. Groundwater sample collected at 12 ft.

Date 4/8/04  
Driller Precision  
Drilling Method Direct Push  
Sampler NA  
Hammer Weight NA Drop NA  
Logged by WJF Datum  
Surface Elevation \_\_\_\_\_ Hole Dia. 2.5 inches  
Northing \_\_\_\_\_ Easting \_\_\_\_\_

PLATE



MACTEC

### Log of Boring 207HP100

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

**C5**

DRAWN  
PCB

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



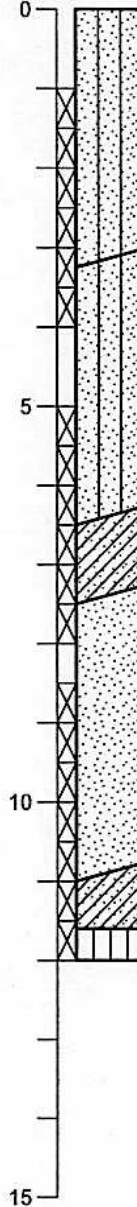
Date 4/8/04Driller PrecisionDrilling Method Direct PushSampler NAHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND



BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



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## Log of Boring 207HP101

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C6

DRAWN  
PCBJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/8/04Driller PrecisionDrilling Method Direct PushSampler NAHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

ND

0  
ASPHALT  
VERY DARK GRAYISH BROWN  
GRAVELLY SILT WITH SAND (ML) (10YR  
3/2) Dense, dry, 50% silt, 30% fine to  
coarse chert gravel, 20% fine to medium  
sand [Fill]

@ 2.5 ft.: 1 in. wood debris  
DARK YELLOWISH BROWN POORLY  
GRADED SAND (SP) ((10YR 4/6) Loose,  
moist, 90% fine sand, 10% silt, trace clay  
nodules, some iron oxide staining  
DARK BROWN CLAYEY SAND (SC) (10YR  
3/3) Medium dense, moist, 60-85% fine  
sand, 15-40% lean clay, common reddish  
brown iron oxide stained ares [Fill]

@ 6 ft.: Color change to DARK GREENISH  
GRAY (5GY 4/1)

@ 7 ft.: Color change to DARK BROWN

@ 7.5 ft.: Color change to DARK  
GREENISH GRAY (5GY 4/1)

@ 8 ft.: Color change to DARK BROWN

@ 8.5 ft.: Color change to DARK  
GREENISH GRAY, wet

10  
BLACK ORGANIC SILT (ML) 90-95% silt,  
5-10% fine sand

DARK GREENISH GRAY FAT CLAY (CH)  
90% clay, 10% silt to fine sand

15  
Bottom of boring at 12 ft. Groundwater  
sample collected at 12 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 207HP102

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
PCB

JOB NUMBER  
4089041001.102

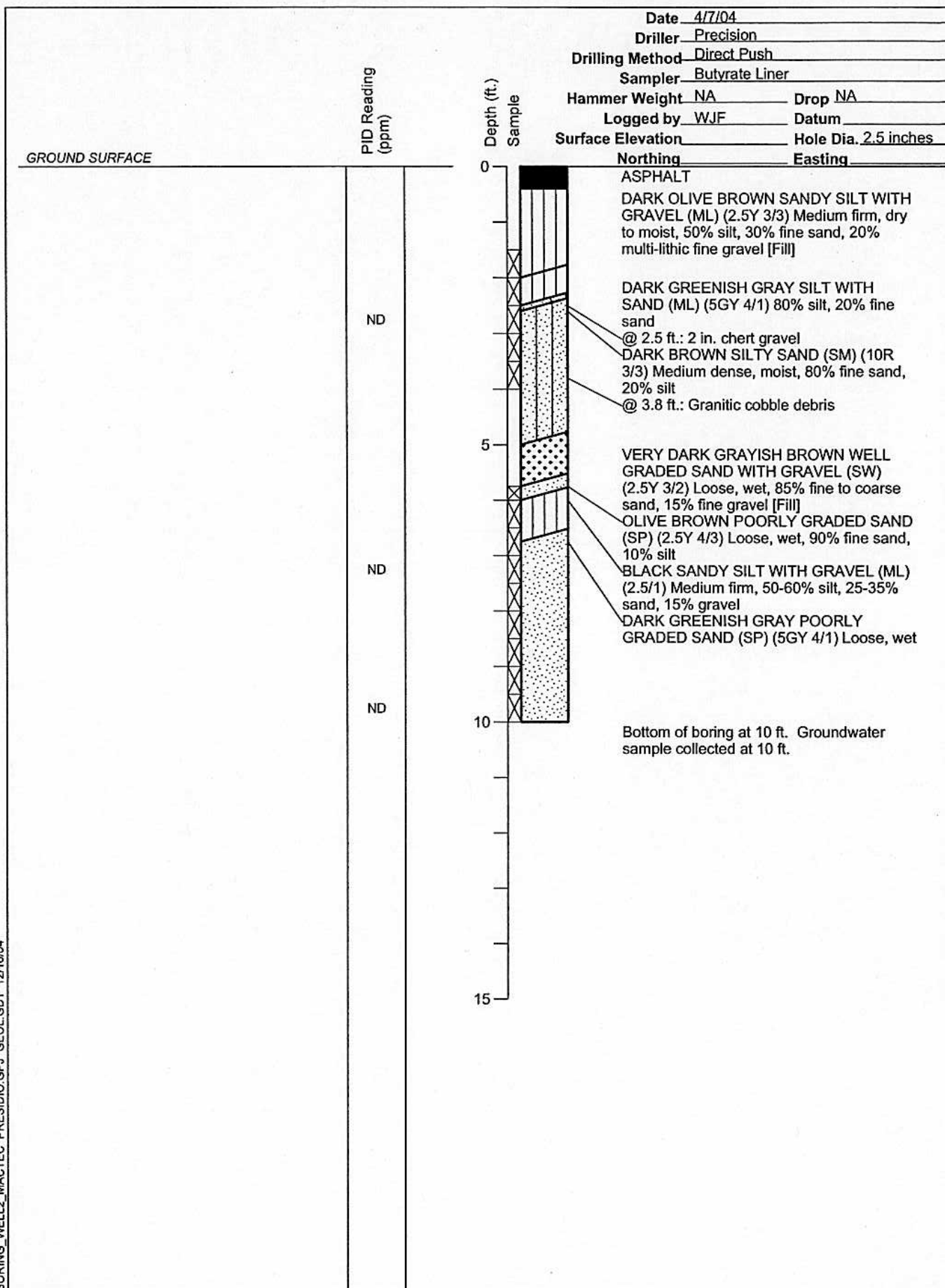
APPROVED

DATE  
12/04

REVISED DATE

C7





PLATE



MACTEC

## Log of Boring 207HP103

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

DRAWN  
PCB

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C8



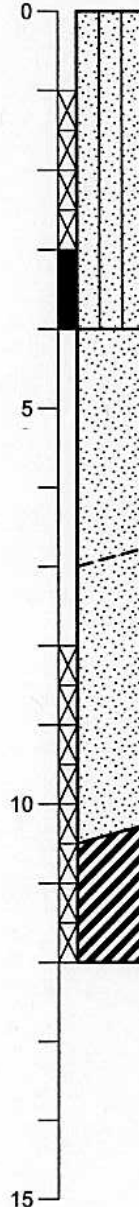
Date 4/8/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

1.1

ND



VERY DARK GRAYISH BROWN SILTY SAND (SM) Loose, moist, 70% fine sand, 20% silt, 10% fine gravel, trace shell fragments

@ 2 ft.: Change to 80% fine sand, 20% silt, trace brick deris, iron oxide stained inclusions

@ 4 ft.: Wood debris clogged driving shoe in 4 to 8 ft. run. No sample recovery

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5G 4/1) Loose, wet, 90% fine sand, 10% silt

DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium firm, moist, black mottled color, trace fibrous material

Bottom of boring at 12 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 207SB104

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C9

DRAWN  
PCBJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/8/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

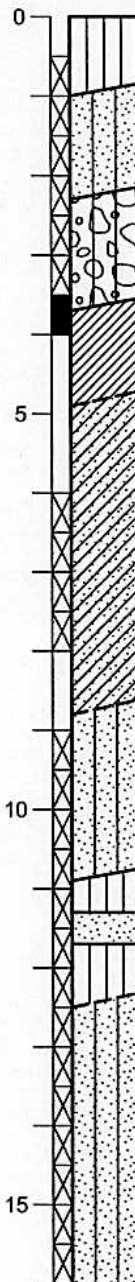
PID Reading  
(ppm)Depth (ft.)  
Sample

261

177

36

19



DARK YELLOWISH BROWN SANDY SILT (ML) (10YR 3/4) Loose to medium dense, moist, 70% silt, 30% fine sand, grass and root debris [Fill]

VERY DARK GRAYISH BROWN SILTY SAND (SM) (2.5Y 3/2) Medium dense, moist, 70% fine sand, 30% silt [Fill]

DUSKY RED SILTY GRAVEL WITH SAND (GM) (10R 3/2) Medium dense, moist, 30% chert gravel, 30% fine to medium chert sand, 40% silt [Fill]

DARK OLIVE GRAY SANDY LEAN CLAY (CL) (5Y 3/2) Medium dense, moist, strong product odor [Fill]

DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Medium dense, moist to wet, 60-80% fine sand, 20-40% clay, strong product odor [Fill]

DARK GREENISH GRAY SILTY SAND (SM) (5G 4/1) Loose to medium dense, wet [Fill]

BLACK SILT (ML) (N2.5/) Soft, wet to moist, 95% silt, 5% clay, trace shell fragments [Fill]

BLACK POORLY GRADED SAND (SP)

(N2.5/) Loose, wet 100% fine sand [Fill]

BLACK SILT (ML) (N2.5/) Soft, wet moist, 95% silt, 5% clay, trace shell fragments [Fill]

DARK GREENISH GRAY TO BLACK SILTY SAND (SM) (5GY 4/1 to N2.5/) Medium dense, wet, 60-80% fine sand, 20-40% silt, trace to 10% shell fragments, 2 pieces of bent metal wire, organic odor [Fill]

Bottom of boring at 16 ft. Groundwater sample collected at 16 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 207HP105

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C10



Date 4/7/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0

ASPHALT

DARK OLIVE BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 3/3) Medium dense, dry, 50% fine sand, 30% fine to medium gravel, 20% silt, trace brick debris, [Fill]

DUSKY RED WELL GRADED GRAVEL (GW) (10R 3/2) Medium dense, dry, chert gravels [Fill]

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/6)

VERY DARK GRAY SILTY SAND WITH GRAVEL (SM) (5Y 3/1) Dry to moist, trace brick debris, trace resin like material [Fill]

5

ND

ND

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5G 4/1) Loose, wet, 90% fine sand, 10% silt

10

DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Soft to medium firm, wet to moist, 60-80% fine sand, 20-40% fat clay  
Bottom of boring at 12 ft. Groundwater sample collected at 12 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 208SB100

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C11

DRAWN  
WJFJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



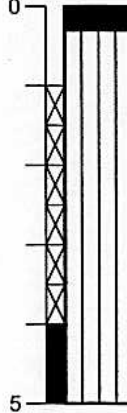
BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

GROUND SURFACE

PID Reading  
(ppm)

ND

Depth (ft.)  
Sample



Date 4/7/04  
 Driller Precision  
 Drilling Method Direct Push  
 Sampler Butyrate Liner  
 Hammer Weight NA Drop NA  
 Logged by WJF Datum \_\_\_\_\_  
 Surface Elevation \_\_\_\_\_ Hole Dia. 2.5 inches  
 Northing \_\_\_\_\_ Easting \_\_\_\_\_

ASPHALT  
 VERY DARK GRAY SANDY SILT WITH  
 GRAVEL (ML) (5Y 3/1) Medium firm, moist,  
 40-60% silt, 25-45% fine to medium sand,  
 15% fine to medium multi lithic gravel, trace  
 brick debris [Fill]

Bottom of boring at 5 ft.

PLATE



**MACTEC**

**Log of Boring 228SB100**

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

**C12**

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/6/04

Driller Precision

Drilling Method Direct Push

Sampler Butyrate Liner

Hammer Weight NA Drop NA

Logged by WJF Datum

Surface Elevation Hole Dia. 2.5 inches

Northing Easting

GROUND SURFACE

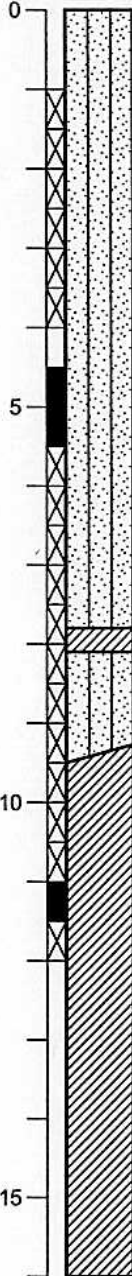
PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

12

473



DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 3/4) Loose, moist, 85% fine sand, 15% silt,

VERY DARK GRAY LEAN CLAY WITH SAND (SC) (5Y 3/1) Medium firm, moist, 70% clay, 15% fine sand, 15% silt, black visqueen underlies base of unit [Fill]

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 3/4) Loose, wet, [Fill]

VERY DARK GRAY SANDY LEAN CLAY WITH GRAVEL (CL) (5Y 3/1) Medium firm, moist, 50% clay, 30% fine sand, 20% fine to medium gravel, brick debris up to 2 in. dia [Fill]

@10/5 feet: Change to increase gravel to 20%. Moderate odor

Bottom of boring at 16 ft. Groundwater sample collected at 16 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 228SB101

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C13



Date 4/6/04

Driller Precision

Drilling Method Direct Push

Sampler Butyrate Liner

Hammer Weight NA Drop NA

Logged by WJF Datum

Surface Elevation Hole Dia. 2.5 inches

Northing Easting

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 3/4) Loose, dry, 80% fine sand, 20% silt [Fill]

VERY DARK GRAYISH BROWN SANDY SILT WITH GRAVEL (ML) (2.5Y 3/2) 50% silt, 30% fine sand, 20% fine to medium chert and other lithic gravel, common coarse brick debris, trace to minor slag material [Fill]

@ 3.5 ft.: Change to 20% clayey/sandy nodules

5

BROWN SANDY LEAN CLAY (CL) (10YR 4/3) 50-70% clay, 30-50% fine sand, iron oxide mottling [Fill]

10

DARK GREENISH GRAY GRAVELLY LEAN CLAY (CL) (5GY 4/1) Medium firm, moist, 60% serpentinite derived clay, 40% serpentinite gravel [Fill]

VERY DARK GRAY SILTY SAND (SM) (10YR 3/1) Loose, wet, 80% fine sand, 20% silt, strong product odor

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5G 4/1) Loose, wet, 90% fine sand, 10% silt, moderate product odor

672

DARK GREENISH GRAY SANDY FAT CLAY (CH) (5GY 4/1) Firm moist, 60-80% clay, 20-40% fine sand

DARK GREENISH GRAY SILTY SAND (SM) (5G 4/1) Loose, wet, 80-85% fine sand, 15-20% silt

VERY DARK GRAY SILT (ML) (N3/) 70% silt, 30% clay, organic appearance

DARK GREENISH GRAY SILTY SAND (SM) (5GY 4/1) Loose to medium dense, wet, 60-90% fine sand, 10-30% silt

DARK GREENISH GRAY SANDY FAT CLAY (CH) (5GY 4/1) Firm moist, 70-80% clay, 20-30% fine sand

DARK GREENISH GRAY SILTY SAND (SM) (5GY 4/1) Loose to medium dense, wet, 60-90% fine sand, 10-30% silt

VERY DARK GRAY SANDY SILT (SM) Firm, moist, 60-70% silt, 30-40% fine sand

DARK OLIVE GRAY WELL GRADED SAND (SW) (5Y 3/2) Medium dense, wet, 90% fine to coarse sand, 10% silt

Bottom of boring at 16 ft. Groundwater sample collected at 16 ft.

319

66

3

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 228SB102

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C14

DRAWN  
WJFJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

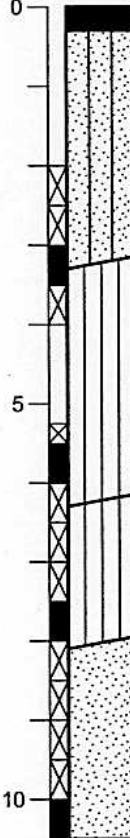
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

ND



ASPHALT  
DARK BROWN SILTY SAND WITH  
GRAVEL (SM) (10YR 3/3) Medium dense,  
dry, 40% fine to medium sand, 30% mostly  
chert gravel, 30% silt [Fill]

DARK OLIVE GRAY SANDY SILT (ML) (5Y  
3/2) Medium firm, moist, 50% silt, 20-40%  
fine sand, 10-30% clay, trace brick debris to  
1 in. dia [Fill]

DARK GREENISH GRAY SILT WITH  
SAND (ML) (5GY 4/1) firm moist 60% silt,  
25% clay, 15% fine sand, trace olive yellow  
grity inclusions, trace dark brown inclusions

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5GY 4/1) Loose, wet,  
90% fine sand, 10% silt

Bottom of boring at 10.5 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 230SB100

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C15

DRAWN  
WJFJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF DatumSurface Elevation                      Hole Dia. 2.5 inchesNorthing                      Easting                     

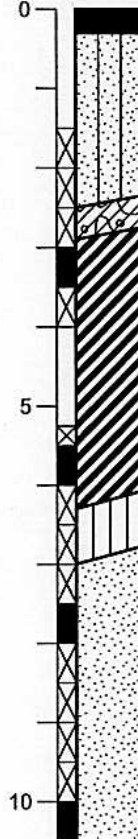
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

ND



ASPHALT  
DARK BROWN SILTY SAND WITH  
GRAVEL (SM) (10YR 3/3) Medium dense,  
dry 40% fine to medium sand, 30% fine to  
medium mostly chert gravel, 30% silt [Fill]

DARK GREENISH GRAY CLAYEY  
GRAVEL (GC) (5GY 4/1) Medium dense,  
moist, 60-70% lean clay, 20% fine gravel,  
10-20% silt [Fill]

DARK GREENISH GRAY FAT CLAY WITH  
SAND (CH) (5GY 4/1) Firm, moist, 60%  
clay, 20% fine sand, 20% silt, trace plant  
debris/peat

VERY DARK GRAY SANDY SILT (ML)  
(N3/) Medium firm, moist to wet, 60% silt,  
20% fine sand, 20% clay

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) Loose, wet to moist,  
90% fine sand, 10% silt

Bottom of boring at 10.5 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 230SB101

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C16



Date 4/5/04

Driller Precision

Drilling Method Direct Push

Sampler Butyrate Liner

Hammer Weight NA Drop NA

Logged by WJF Datum

Surface Elevation Hole Dia. 2.5 inches

Northing Easting

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0

ASPHALT  
DARK BROWN SILTY SAND WITH  
GRAVEL (SM) (10YR 3/3) Medium dense,  
dry, 40% fine to medium sand, 30% fine to  
coarse chert gravel, 30% silt [Fill]  
BROWN CLAYEY SAND WITH GRAVEL  
(SC) (10YR 4/3) Medium dense, moist, 40%  
fine sand, 40% clay, 20% fine gravel [Fill]

BROWN CLAYEY SAND (SC) (10YR 4/3)  
Medium dense, moist, 50% fine sand, 40%  
clay, 10% fine gravel [Fill]

@ 5.5 FT.: Change to DARK GREENISH  
GRAY (5GY 4/1) Wet, 60-80% fine sand,  
20-40% fat clay, rare gravel

DARK GREENISH GRAY SANDY FAT  
CLAY (CH) (5GY 4/1) Firm moist, 40-60%  
clay, 40-60% fine sand

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5GY 4/1) Loose, wet,  
90% fine sand, trace coarse sand, 10% silt,  
trace very fine brick debris [Fill]

DARK GREENISH GRAY CLAYEY SAND  
(SC) (5GY 4/1) Dense, moist, 50-60% fine  
sand, 20-50% fat clay  
Bottom of boring at 10 ft. Groundwater  
sample collected at 10 ft.

10

ND

ND

ND

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 231SB100

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C17



Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum \_\_\_\_\_Surface Elevation \_\_\_\_\_ Hole Dia. 2.5 inches

Northing \_\_\_\_\_ Easting \_\_\_\_\_

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0

1

2

3

4

5

6

7

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ASPHALT

DARK BROWN SILTY SAND WITH GRAVEL (SM) (10YR 3/3) 50% fine sand, 30% fine to medium chert gravel, 20% silt, trace glass debris [Fill]

DARK GREENISH GRAY CLAYEY SAND (SC) Medium dense, moist, 40-60% fine sand, 30-50% clay, 10% fine gravel [Fill]

DARK GREENISH GRAY CLAYEY SAND WITH GRAVEL (SC) (5GY 4/1) Medium dense, wet, 40% fine sand, 40% fat clay, 20% medium gravel and brick debris, trace wood debris [Fill]

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet, 90% fine sand, 10% silt

DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Medium dense, moist to wet, 70 to 80% fine sand, 20 to 30% clay  
Bottom of boring at 10.5 ft. Groundwater sample collected at 10.5 ft.

ND

ND

ND

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 231SB101

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, CaliforniaDRAWN  
WJFJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

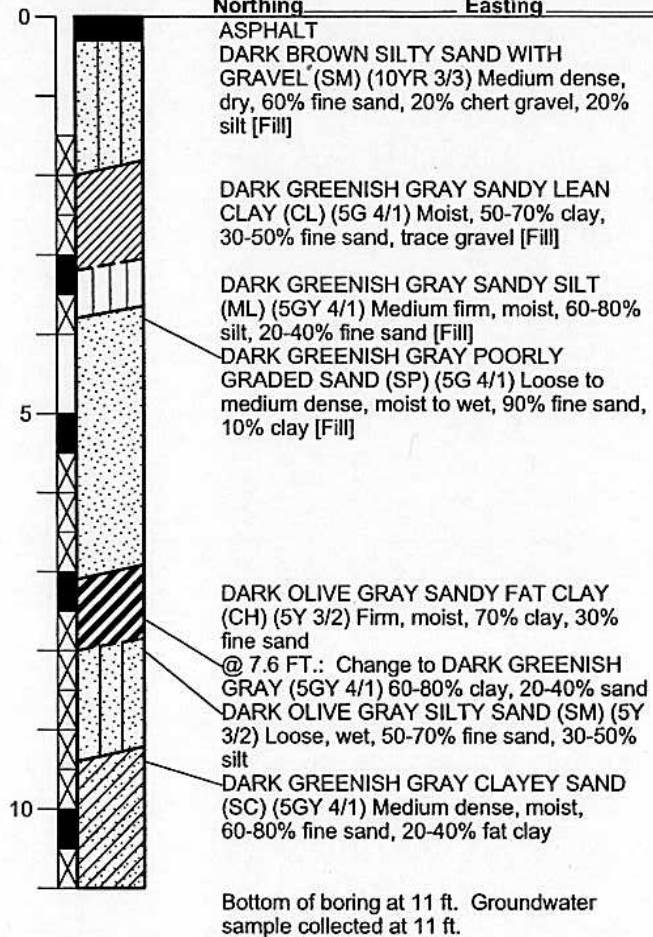
REVISED DATE

C18



Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

2

1

ND

BORING WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB102

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C19

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

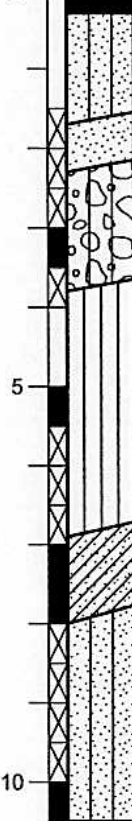


Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0



ND

ND

ND

ASPHALT  
 VERY DARK GRAYISH BROWN SILTY  
 SAND WITH GRAVEL (SM) (2.5Y 3/2)  
 Loose, dry, 50% fine sand, 30% fine to  
 medium multi-lithic gravel, 20% silt [Fill]

DARK YELLOWISH BROWN POORLY  
 GRADED SAND (SP) (10YR 4/4) Loose,  
 moist, 95% fine sand, 5% silt  
 VERY DUSKY RED SILTY GRAVEL WITH  
 SAND (GM) (10R 2.5/2) Medium dense,  
 moist, 50% fine to coarse chert gravel, 30%  
 silt, 20% chert sand [Fill]  
 VERY DARK GRAY SANDY SILT (ML)  
 (2.5Y 3/1) Firm, moist, 60-80% silt, 20-40%  
 fine sand, trace green sandy nodules

DARK GREENISH GRAY CLAYEY SAND  
 (SC) (5GY 4/1) Dense, moist, 60-70% fine  
 sand, 10-20% clay, 10-20% silt, trace black  
 nodules

DARK GREENISH GRAY SILTY SAND  
 (SM) (5GY 4/1) Loose, wet, 85% fine sand,  
 15% silt

@ 8.4 ft.: Change to 50-70% fine sand,  
 30-50% silt, trace black nodules

Bottom of boring at 10.5 ft. Groundwater  
 sample collected at 10.5 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/15/04

PLATE



## Log of Boring 231SB103

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

C20

DRAWN

JOB NUMBER

APPROVED

DATE

REVISED DATE

WJF

4089041001.102

12/04



Date 4/7/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

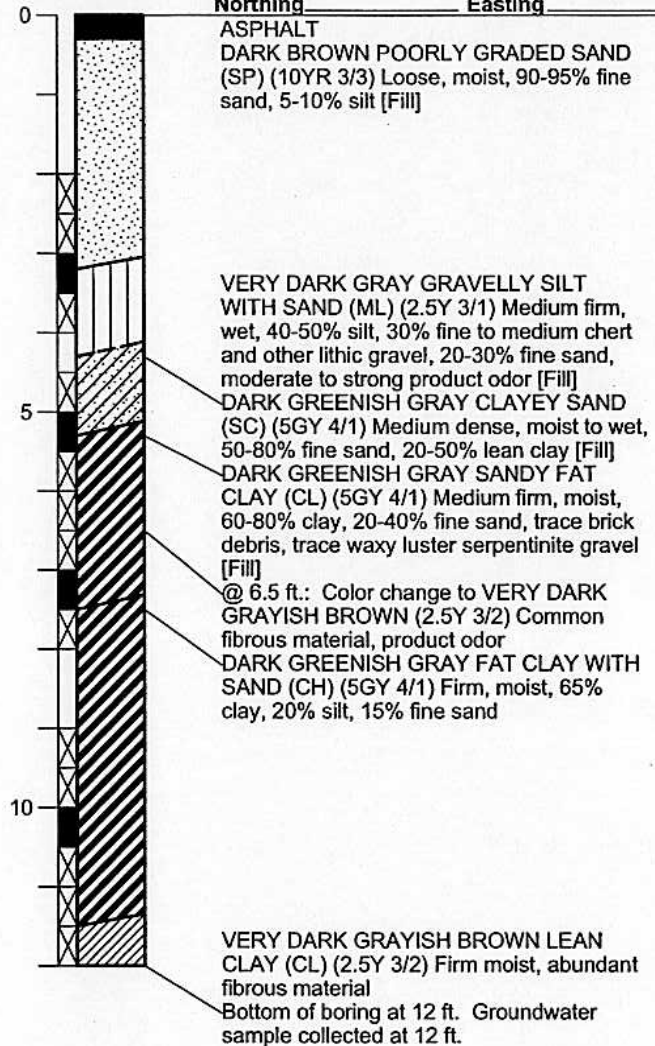
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

367

239

3



BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB104

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C21

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

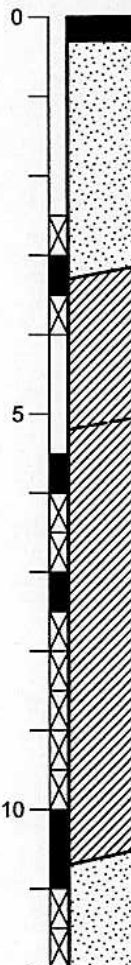
DATE  
12/04

REVISED DATE



Date 4/7/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ASPHALT  
DARK BROWN POORLY GRADED SAND  
(SP) (10YR 3/3) Loose, moist, 90-95% fine  
sand, 5-10% silt [Fill]

VERY DARK GRAY GRAVELLY LEAN  
CLAY WITH SAND (CL) (10YR 3/1) Medium  
firm, moist, 50% clay, 30% fine to medium  
chert gravel, 20% fine to medium sand [Fill]

DARK GREENISH GRAY TO VERY DARK  
GRAY SANDY LEAN CLAY (CL) (5GY 4/1  
to 5Y 3/1) Medium firm, moist to wet,  
abundant reddish brown fibrous material  
[Fill]

@ 7 ft.: 1 in. loose gravel lense with  
moderate product odor

@ 8 ft.: Change to VERY DARK GRAYISH  
BROWN (2.5Y 3/2) Abundant brown  
fibrous/waxy material [Fill]

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5G 4/1) Loose, wet,  
95% fine sand, 5% silt, trace roots or fibrous  
wood debris [Fill]

Bottom of boring at 12 ft. Groundwater  
sample collected at 12 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB105

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C22

DRAWN  
WJFJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/8/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NADrop NALogged by WJFDatum           Surface Elevation           Hole Dia. 2.5 inchesNorthing           Easting           

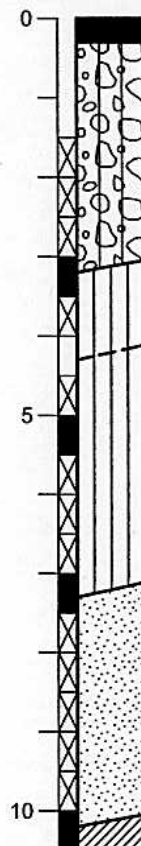
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

ND



ASPHALT  
DUSKY RED GRAVELLY SILT WITH  
SAND (GM) (10R 3/2) Medium dense, dry,  
30% fine to medium chert gravel, 30% fine  
to medium chert sand, 40% silt [Fill]

DARK OLIVE GRAY SANDY SILT (ML) (5Y  
3/2) Medium firm, moist, 60-70% silt,  
30-40% fine sand [Fill]

DARK GREENISH GRAY SILT WITH  
SAND (ML) (5GY 4/1) Soft, wet, 85% silt,  
15% fine sand [Fill]

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5GY 4/1) Loose, wet,  
95% fine sand, 5% silt [Fill]

DARK GREENISH GRAY LEAN CLAY (CL)  
5GY 4/1) Medium firm to firm, moist, 80%  
clay, 20% silt, abundant fibrous material  
[Fill]

Bottom of boring at 10.5 ft. Groundwater  
sample collected at 10.5 ft.

PLATE



MACTEC

## Log of Boring 231SB106

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C23

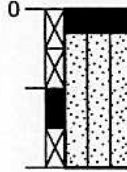


Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)

ND

Depth (ft.)  
Sample

ASPHALT  
 VERY DARK GRAYISH BROWN SILTY  
 SAND (SM) (2.5Y 3/2) Medium dense,  
 moist, 60% fine sand, 40% silt [Fill]

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



MACTEC

## Log of Boring 231SB107

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

C24

DRAWN  
 WJF

JOB NUMBER  
 4089041001.102

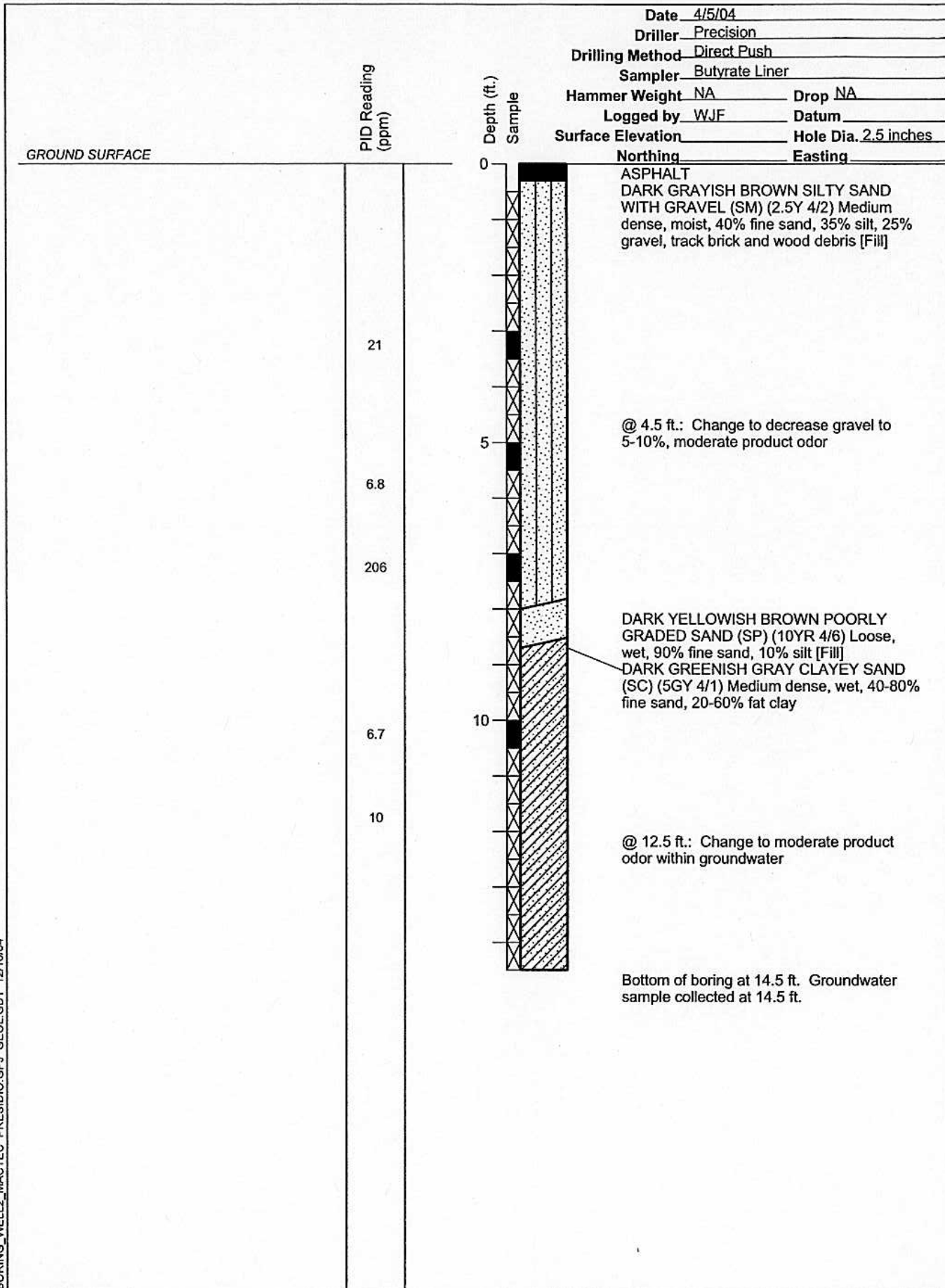
APPROVED

DATE  
 12/04

REVISED DATE



BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04



PLATE



**MACTEC**

**Log of Boring 231SB108**

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

**C25**

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/5/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum                     Surface Elevation                      Hole Dia. 2.5 inchesNorthing                      Easting                     

GROUND SURFACE

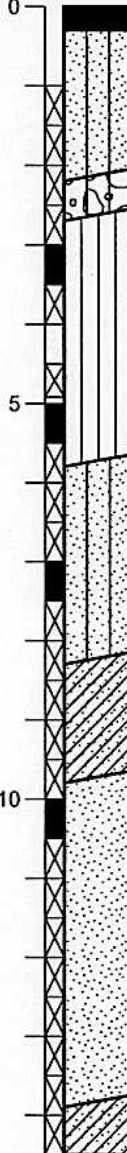
PID Reading  
(ppm)Depth (ft.)  
Sample

12

19

9

4.5



ASPHALT  
VERY DARK GRAYISH BROWN SILTY  
SAND WITH GRAVEL (SM) (2.5Y 3/2)  
Medium dense, dry, 50% fine sand, 30%  
fine to medium gravel, 20% silt [Fill]

DUSKY RED SILTY GRAVEL WITH SAND  
(GM) (10R 3/2) Medium dense, dry, chert  
derived gravel, sand, and silt [Fill]  
DARK OLIVE GRAY SANDY SILT (ML) (5Y  
3/2) Firm, moist, 60-85% silt 15-40% sand,  
trace serpentinite nodules, trace peat [Fill]

DARK GREENISH GRAY SILTY SAND  
(SM) (5GY 4/1) Dense, moist, 50-70% fine  
sand, 30-50% silt, trace brick debris, trace  
chert gravel [Fill]

DARK GREENISH GRAY CLAYEY SAND  
(SC) (5GY 4/1) Medium dense, moist,  
40-50% fine sand, 20-30% clay, 20-30% silt,  
trace to 10% dark gritty lenses

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5G 4/1) Loose, wet,  
95-100% fine sand, trace to 5% silt

DARK GREENISH GRAY SANDY FAT  
CLAY (CH) (5GY 4/1) Firm, moist, 80%  
clay, 20% fine sand  
Bottom of boring at 14.5 ft. Groundwater  
sample collected at 14.5 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB109

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

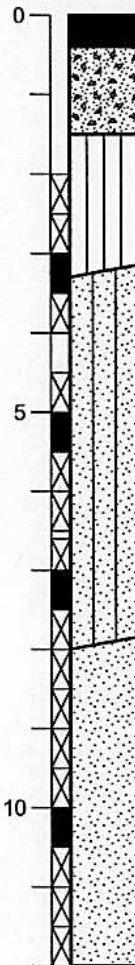
REVISED DATE

C26



Date 4/8/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

DARK OLIVE GRAY SANDY SILT WITH GRAVEL (ML) (5Y 3/2) Medium firm, dry, 50% silt, 30% fine to medium sand, 20% chert and other lithic gravel [Fill]

DARK GREENISH GRAY SILTY SAND (SM) (5GY 4/1) Medium dense, moist, 70-80% fine sand, 20-30% silt [Fill]

@ 6 ft.: Change to 50-80% sand, 20-50% silt

@ 7.5 ft.: Change to VERY DARK GRAY (2.5Y 3/1) Trace brick debris, 1 in. piece of black waxy/hard material  
DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet, 95% fine sand, 5% silt

Bottom of boring at 12 ft. Groundwater sample collected at 12 ft.

BORING WELL2, MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB110

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C27

DRAWN  
WJFJOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/6/04

Driller Precision

Drilling Method Direct Push

Sampler Butyrate Liner

Hammer Weight NA Drop NA

Logged by WJF Datum

Surface Elevation Hole Dia. 2.5 inches

Northing Easting

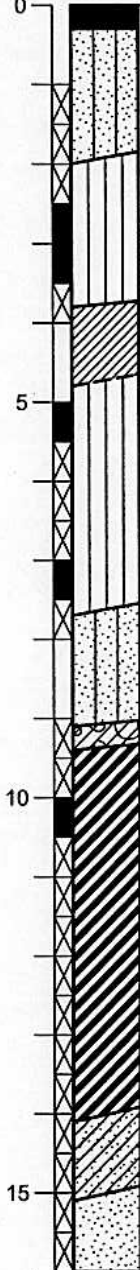
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

27

6

ND



ASPHALT  
DARK REDDISH GRAY SILTY SAND WITH GRAVEL (SM) (10R 3/1) Medium dense, dry, 40% fine to medium sand, 30% fine to medium chert gravel, 30% silt [Fill]

DARK OLIVE GRAY SANDY SILT (ML) (5Y 3/2) Medium firm, moist, 60-70% silt, 30-40% fine sand, trace wood, slag, and brick debris [Fill]

DARK YELLOWISH BROWN LEAN CLAY WITH SAND (CL) (10YR 4/6) Medium firm, moist, 40-50% clay, 30-40% silt, 20% fine sand [Fill]

DARK OLIVE GRAY SANDY SILT (ML) (5Y 3/2) Medium firm, moist, 40% silt, 30% fine sand, 20% lean clay, 10% fine gravel, trace brick and slag debris [Fill]

OLIVE SILTY SAND (SM) (5Y 4/4) Medium dense, wet, 60-80% fine sand, 20-30% silt, trace to 10% clay [Fill]

VERY DARK GRAY CLAYEY GRAVEL WITH SAND (GC) (5Y 3/1) 50% chert and other lithic gravels, 30% fine to medium sand, 20% clay, trace shell fragments, trace asphalt debris [Fill]

DARK GREENISH GRAY SANDY FAT CLAY (CH) (5GY 4/1) 40-70% clay, 20-50% fine sand, 10% silt [Bay Mud Deposits]

DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Medium dense, moist to wet, 60-70% fine sand, 30-40% clay [Bay Mud Sediment]

DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet, 90% fine sand, 10% silt [Bay Mud Sediment]

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB111

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C28

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/6/04  
 Driller Precision  
 Drilling Method Direct Push  
 Sampler Butyrate Liner  
 Hammer Weight NA Drop NA  
 Logged by WJF Datum \_\_\_\_\_  
 Surface Elevation \_\_\_\_\_ Hole Dia. 2.5 inches  
 Northing \_\_\_\_\_ Easting \_\_\_\_\_

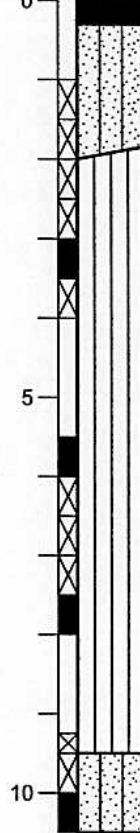
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

2.2

5

1.2



ASPHALT  
 DARK RED SILTY SAND WITH GRAVEL  
 (SM) (10R 3/2) Medium dense, dry, 40%  
 chert derived fine to medium sand, 30%  
 chert gravel, 30% silt [Fill]

VERY DARK GRAY SANDY SILT (ML) (5Y  
 3/1) Medium firm, moist, 60% silt, 20-30%  
 fine sand, 10-20% lean clay, trace greenish  
 inclusions, trace brick and asphalt debris,  
 slight product odor [Fill]

@ 5 ft.: Change to increase clay to 30%

@ 7 ft.: Change to DARK GREENISH  
 GRAY (5GY 4/1) and GREENISH GRAY  
 (5GY 5/1) Increase reddish brown clayey  
 nodules, trace tan nodules [Fill]

VERY DARK GRAY SILTY SAND (SM)  
 (N3/) Loose, wet, 60-70% fine sand, 30-40%  
 silt [Bay Mud Sediment]

Bottom of boring at 10.5 ft. Groundwater  
 sample collected at 10.5 ft.

PLATE



MACTEC

## Log of Boring 231SB112

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

DRAWN  
 WJF

JOB NUMBER  
 4089041001.102

APPROVED

DATE  
 12/04

REVISED DATE

C29



Date 4/6/04

Driller Precision

Drilling Method Direct Push

Sampler Butyrate Liner

Hammer Weight NA Drop NA

Logged by WJF Datum

Surface Elevation Hole Dia. 2.5 inches

Northing Easting

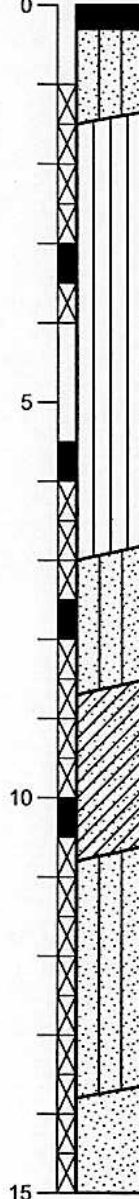
GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

ND

ND

ND



ASPHALT  
DUSKY RED SILTY SAND WITH GRAVEL  
(SM) (10R 3/2) Medium dense, dry, 40%  
fine to medium sand, 30% fine to medium  
chert gravel, 30% silt [Fill]  
VERY DARK GRAY SANDY SILT (ML) (5Y  
3/1) Medium firm, moist, 60% silt, 30% fine  
sand, 10% lean clay, trace brick debris [Fill]

@ 3 ft.: Change to increase sand to  
30-40%, increase greenish gray clayey  
nodules, trace wood debris

@ 5.5 ft.: Change to moist to wet, increase  
greenish gray clayey nodules to 20-30%

DARK GREENISH GRAY SILTY SAND  
(SM) (5GY 4/1) Medium dense, moist to  
wet, 40-60% fine sand, 20-60% silt, 10-20%  
clay

DARK GREENISH GRAY CLAYEY SAND  
(SC) (5GY 4/1) Medium dense, moist to wet,  
60-70% fine sand, 20-30% clay, 10% silt

DARK GREENISH GRAY SILTY SAND  
(SM) (5GY 4/1) Medium dense, moist to  
wet, 50-80% fine sand, 20-40% silt, trace to  
10% clay

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5GY 4/1) Loose, wet,  
90% fine sand, 10% silt [Bay Mud  
Sediment]  
Bottom of boring at 15 ft. Groundwater  
sample collected at 15 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB113

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

C30

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



Date 4/7/04Driller PrecisionDrilling Method Direct PushSampler Butyrate LinerHammer Weight NA Drop NALogged by WJF Datum Surface Elevation  Hole Dia. 2.5 inchesNorthing  Easting 

GROUND SURFACE

PID Reading  
(ppm)Depth (ft.)  
Sample

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

ASPHALT  
OLIVE BROWN SILTY SAND WITH  
GRAVEL (SM) 40% fine to medium sand,  
30% fine to medium multi-lithic gravel, 30%  
silt [Fill]

OLIVE BROWN SILTY SAND (SM) (2.5Y  
4/3) Medium dense, moist, 60-70% fine  
sand, 30-40% silt, trace brick debris, rare  
white material [Fill]

@ 5 ft.: Change to DARK GREENISH  
GRAY (5GY 4/1)

OLIVE BROWN SANDY SILT (ML) (2.5Y  
4/3) Firm to hard, dry, 80% silt, 20% fine  
sand [Fill]

DARK GREENISH GRAY CLAYEY SAND  
(SC) (5GY 4/1) Loose to medium dense,  
70-80% fine sand, 20-30% clay [Fill]

BLACK SILT (ML) (2.5Y 2.5/1) Firm, 90%  
silt, 10% fine sand, abundant fibrous plant  
like material/possible wood pulp [Fill]

DARK GREENISH GRAY POORLY  
GRADED SAND (SP) (5G 4/1) Loose, wet,  
90% fine sand, 10% silt, trace fibrous  
material

Bottom of boring at 16 ft. Groundwater  
sample collected at 16 ft.

BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

PLATE



## Log of Boring 231SB114

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE

C31



Date 4/8/04  
 Driller Precision  
 Drilling Method Direct Push  
 Sampler Butyrate Liner  
 Hammer Weight NA Drop NA  
 Logged by WJF Datum \_\_\_\_\_  
 Surface Elevation \_\_\_\_\_ Hole Dia. 2.5 inches  
 Northing \_\_\_\_\_ Easting \_\_\_\_\_

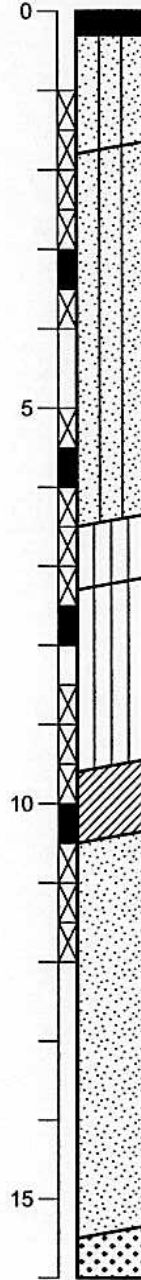
GROUND SURFACE

PID Reading  
(ppm)

ND

173

31

Depth (ft.)  
Sample

ASPHALT  
 VERY DARK GRAYISH BROWN SILTY  
 SAND WITH GRAVEL (SM) (2.5Y 3/2)  
 Loose, dry, 30% fine to medium sand, 30%  
 fine to medium gravel, 40% silt [Fill]

VERY DARK GRAYISH BROWN SILTY  
 SAND (SM) (2.5Y 3/2) Medium dense,  
 moist, 60-70% fine sand, 30-40% silt, iron  
 oxide mottled nodules, trace brick and slag  
 debris [Fill]

DARK YELLOWISH BROWN SANDY SILT  
 (ML) (10YR 4/4) Firm, moist to dry, 70% silt,  
 30% fine sand, common black material  
 occurring in vein like patterns [Fill]  
 BLACK SILT WITH SAND (ML) (5Y 2.5/1)  
 Medium firm, moist, 80% silt, 20% fine  
 sand, moderate product odor [Fill]  
 @ 8.5 ft.: Change to wet

DARK GREENISH GRAY LEAN CLAY  
 (5GY 4/1) 80% clay, 20% silt, abundant  
 fibrous material [Fill]  
 DARK GREENISH GRAY POORLY  
 GRADED SAND (SP) (5G 4/1) Loose, wet,  
 90-95% fine sand, 5-10% silt, trace to  
 common root like material [Fill]

Core barrel stuck in pipe after 12 to 16 ft.  
 run. Cuttings were logged after they were  
 pounded out of the barrel.

LIGHT OLIVE GRAY WELL GRADED  
 SAND (SW) (5Y 6/2) Loose, wet, 100% fine  
 to medium sand  
 Bottom of boring at 16 ft. Groundwater  
 sample collected at 16 ft.

PLATE



## Log of Boring 231SB115

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

C32

DRAWN  
 WJF

JOB NUMBER  
 4089041001.102

APPROVED

DATE  
 12/04

REVISED DATE



BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04

Date 4/5/04  
 Driller Precision  
 Drilling Method Direct Push  
 Sampler Butyrate Liner  
 Hammer Weight NA Drop NA  
 Logged by WJF Datum   
 Surface Elevation  Hole Dia. 2.5 inches  
 Northing  Easting

GROUND SURFACE

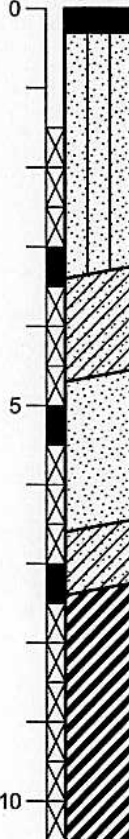
PID Reading  
(ppm)

Depth (ft.)  
Sample

1.8

ND

1



ASPHALT  
 DARK BROWN SILTY SAND WITH  
 GRAVEL (SM) (10YR 3/3), Medium dense,  
 dry, 40% fine sand, 40% gravel and brick  
 debris, 20% silt, trace charcoal debris [Fill]

DARK OLIVE GRAY CLAYEY SAND WITH  
 GRAVEL (SC) (5Y 3/2) Medium dense,  
 moist to wet, 60% fine sand, 20-25% clay,  
 10-15% serpentine gravel [Fill]

DARK GREENISH GRAY POORLY  
 GRADED SAND (SP) 5GY 4/1 Loose, wet,  
 90% fine sand, 10% silt, trace brick debris  
 [Fill]

VERY DARK GRAY CLAYEY SAND (SC)  
 (5Y 3/1) Medium dense, wet, 70-80% fine  
 sand, 20-30% clay  
 DARK GREENISH GRAY FAT CLAY WITH  
 SAND (CH) Firm, moist, 60% clay, 25% silt,  
 15% fine sand, trace plant debris

@ 9 ft.: Change to increase plant debris at  
 9 ft.

Bottom of boring at 10.5 ft. Groundwater  
 sample collected at 10.5 ft.

PLATE



MACTEC

### Log of Boring 231SB116

Data Gaps Investigation Report  
 Building 207/231 Area  
 Presidio of San Francisco, California

**C33**

DRAWN  
WJF

JOB NUMBER  
4089041001.102

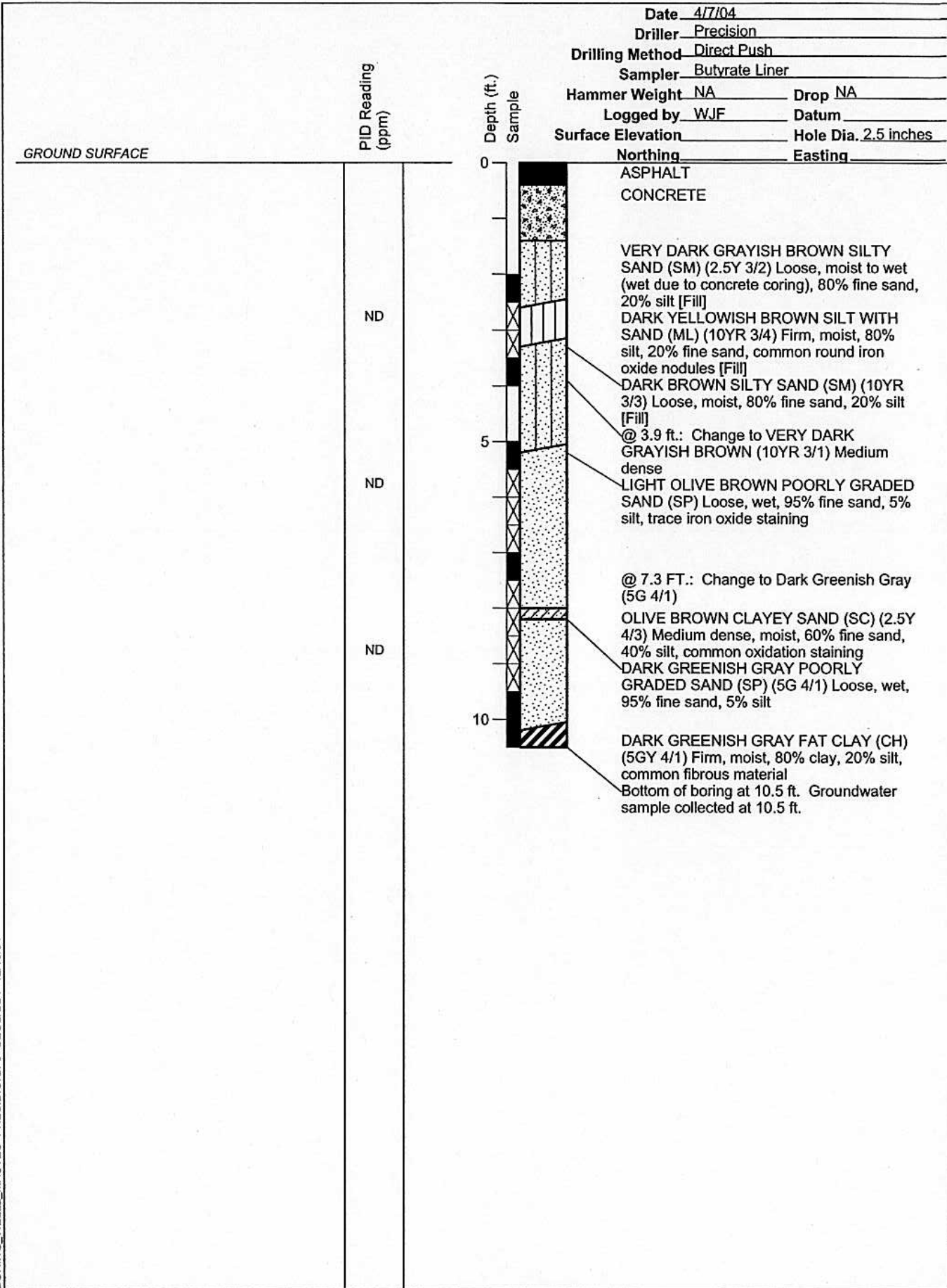
APPROVED

DATE  
12/04

REVISED DATE



BORING\_WELL2\_MACTEC PRESIDIO.GPJ GEOL.GDT 12/16/04



**MACTEC**

**Log of Boring 271SB100**

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco, California

PLATE

**C34**

DRAWN  
WJF

JOB NUMBER  
4089041001.102

APPROVED

DATE  
12/04

REVISED DATE



**Table C1. Survey Data**  
**Data Gaps Investigation Work Plan**  
**Building 207/231 Area**  
**Presidio of San Francisco, California**

Survey Location	Horizontal Coordinates	Vertical Elevation in Feet NGVD29	Vertical Elevation in Feet PLLW
CUT X/CONC LIP	30,480210.265113,1436030.230054	13.720446	16.790446
CONC NAIL/SHINER	31,480297.081751,1435917.535138	11.488884	14.558884
NAIL/SHINER	32,480171.625403,1435762.920018	23.027431	26.097431
NAIL/SHINER	33,480266.656799,1435705.956229	21.102055	24.172055
NAIL/SHINER	34,480505.781832,1436146.261661	10.464766	13.534766
NAIL/SHINER	35,480632.846362,1435835.960427	12.952705	16.022705
NAIL/SHINER	36,480366.724601,1435726.146791	18.692129	21.762129
228SB102	100,480255.391878,1435762.147402	20.362758	23.432758
228SB101	101,480257.588547,1435750.664128	20.278806	23.348806
228SB100	102,480176.924027,1435741.931784	24.274689	27.344689
230SB100	103,480281.007328,1436035.342289	11.586556	14.656556
230SB101	104,480352.041334,1436078.765529	11.243049	14.313049
231SB112	105,480492.431000,1435837.015772	13.170631	16.240631
231SB111	106,480483.251520,1435803.166900	14.144911	17.214911
231SB113	107,480489.262286,1435873.942353	12.373739	15.443739
231SB107	108,480424.627389,1435966.772217	11.265994	14.335994
231SB114	109,480434.679123,1435886.030962	12.460841	15.530841
231SB115	110,480412.459003,1435877.042663	12.609540	15.679540
231PZ04	111,480427.571647,1435851.492849	13.359460	16.429460
231PZ03	112,480436.422024,1435846.712924	13.797188	16.867188
231GW21	113,480458.393899,1435840.347288	13.731587	16.801587
231GW22	114,480423.028489,1435789.372049	15.944424	19.014424
231SB104	115,480327.813921,1435843.477235	13.871830	16.941830
231SB105	116,480293.229980,1435887.788947	12.261608	15.331608
231SB106	117,480344.662214,1435944.714008	11.019126	14.089126
231SB103	118,480316.740736,1435797.715612	14.267925	17.337925
231SB116	119,480322.631771,1435777.042464	14.246615	17.316615
231SB102	120,480328.923176,1435753.740426	14.616308	17.686308
231SB101	121,480307.482092,1435725.011288	15.058534	18.128534
231SB100	122,480285.096606,1435714.498719	15.656432	18.726432
231SB108	123,480374.516324,1435768.327530	15.160822	18.230822
231SB109	124,480376.142284,1435727.172188	18.578892	21.648892
231PZ02	125,480401.564508,1435797.849853	14.923627	17.993627
231PZ01	126,480411.880884,1435793.654943	15.294156	18.364156
231SB110	127,480443.597974,1435711.451508	17.420349	20.490349
208SB100	128,480599.881875,1435818.305184	12.624278	15.694278
271SB100	129,480576.165693,1435710.282101	12.098757	15.168757
207HP100	130,480750.748937,1435718.142420	10.672607	13.742607
207HP103	131,480779.644378,1435675.608737	9.660803	12.730803
207SB104	132,480743.845677,1435801.444065	11.212981	14.282981
207HP101	133,480763.541943,1435838.247432	10.726354	13.796354
207HP102	134,480800.820469,1435821.363064	9.926148	12.996148
207SB105	135,480672.154473,1435790.942126	11.883997	14.953997
38SB102	136,480697.189296,1436046.507949	10.214428	13.284428
38SB103	137,480660.020788,1436082.168955	10.368234	13.438234
38SB100	138,480754.137281,1436008.689431	10.213433	13.283433
38SB101	139,480727.690278,1436029.556195	10.039053	13.109053
COR BLDG 230	200,480267.235625,1436014.054717	11.926937	14.996937
BLDG LINES INTSX	202,480380.556087,1436085.380277	11.284062	14.354062
AP BLDG	203,480369.687894,1436079.204692	11.194069	14.264069
AP BLDG	204,480353.411418,1436070.323677	11.269752	14.339752
AP BLDG	205,480357.243549,1436063.782385	11.508277	14.578277
SSMH RIM	206,480307.527361,1435937.933747	11.353649	14.423649
COR BLDG 230	207,480302.996064,1435948.982814	10.501863	13.571863
COR BLDG 230	208,480420.013713,1436013.768371	11.095482	14.165482
COR BLDG 231	209,480313.347340,1435861.917170	14.783819	17.853819
COR BLDG 231	210,480271.598740,1435854.651269	11.818556	14.888556
COR BLDG 231	211,480320.199509,1435741.639163	14.511694	17.581694
COR BLDG 231	212,480292.666815,1435736.697031	14.732045	17.802045
COR BLDG 228	213,480257.568589,1435704.608102	21.705160	24.775160
COR BLDG 228	214,480193.721758,1435691.957544	26.037862	29.107862
COR BLDG BRICK	215,480181.087091,1435755.506142	23.063590	26.133590
COR BLDG BRICK	216,480244.844714,1435768.239095	20.511920	23.581920
FL 72N SS	217,480306.939340,1435938.976383	3.536978	6.606978

Notes:

Elevation vertical datum: 1929 National Geodetic Vertical Datum (NGVD29)

Elevation vertical datum: Presidio Lower Low Water Vertical Datum (PLLW)

PLLW = NGVD29 + 3.07 feet

Horizontal coordinates datum: 1927 North American Datum (NAD27), State Plane



## APPENDIX D

### CHEMICAL ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY FORMS



## **INDEX OF LABORATORY REPORTS**





MACTEC E&C - Petaluma  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: Presidio Bldg. 207/231  
Project Number: 4089030006.00131  
Project Manager: Bill Feller

P404204  
Reported:  
05/07/04 11:02

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
231SB100(10)	P404204-01	Water	04/05/04 08:20	04/05/04 19:05
231SB101(10.5)	P404204-02	Water	04/05/04 09:10	04/05/04 19:05
231SB102(11)	P404204-03	Water	04/05/04 10:05	04/05/04 19:05
231SB103(10.5)	P404204-04	Water	04/05/04 11:45	04/05/04 19:05
231SB108(14.5)	P404204-05	Water	04/05/04 15:15	04/05/04 19:05
231SB103(RB)	P404204-06	Water	04/05/04 13:10	04/05/04 19:05
231SB116(10.5)	P404204-07	Water	04/05/04 10:55	04/05/04 19:05
TB040504	P404204-08	Water	04/05/04 14:20	04/05/04 19:05
231SB100(3)	P404204-09	Soil	04/05/04 07:25	04/05/04 19:05
231SB100(5.5)	P404204-10	Soil	04/05/04 07:30	04/05/04 19:05
231SB100(7.5)	P404204-11	Soil	04/05/04 07:30	04/05/04 19:05
231SB100(9.5)	P404204-12	Soil	04/05/04 07:40	04/05/04 19:05
SB101(3)	P404204-13	Soil	04/05/04 08:35	04/05/04 19:05
231SB101(5.5)	P404204-14	Soil	04/05/04 08:40	04/05/04 19:05
231SB101(7.5)	P404204-15	Soil	04/05/04 08:40	04/05/04 19:05
231SB101(10)	P404204-16	Soil	04/05/04 09:10	04/05/04 19:05
231SB102(3)	P404204-17	Soil	04/05/04 09:33	04/05/04 19:05
231SB102(5)	P404204-18	Soil	04/05/04 09:40	04/05/04 19:05
231SB102(7)	P404204-19	Soil	04/05/04 09:40	04/05/04 19:05
231SB102(10)	P404204-20	Soil	04/05/04 09:45	04/05/04 19:05
231SB103(3)	P404204-21	Soil	04/05/04 11:12	04/05/04 19:05
231SB103(5)	P404204-22	Soil	04/05/04 11:22	04/05/04 19:05
231SB103(7)	P404204-23	Soil	04/05/04 11:22	04/05/04 19:05
231SB103(10)	P404204-24	Soil	04/05/04 11:28	04/05/04 19:05
231SB108(3)	P404204-25	Soil	04/05/04 14:14	04/05/04 19:05
231SB108(5)	P404204-26	Soil	04/05/04 14:19	04/05/04 19:05
231SB108(7)	P404204-27	Soil	04/05/04 14:19	04/05/04 19:05
231SB108(10)	P404204-28	Soil	04/05/04 14:27	04/05/04 19:05
231SB107(1)	P404204-29	Soil	04/05/04 16:00	04/05/04 19:05





MACTEC E&C - Petaluma  
5341 Old Redwood Highway, Suite 300  
Petaluma CA, 94954

Project: Presidio Bldg. 207/231  
Project Number: 4089030006.00131  
Project Manager: Bill Feller

P404204  
**Reported:**  
05/07/04 11:02

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
231SB109(3)	P404204-30	Soil	04/05/04 13:22	04/05/04 19:05
231SB109(5)	P404204-31	Soil	04/05/04 13:31	04/05/04 19:05
231SB109(7)	P404204-32	Soil	04/05/04 13:31	04/05/04 19:05
231SB109(10)	P404204-33	Soil	04/05/04 13:41	04/05/04 19:05
230SB100(3)	P404204-34	Soil	04/05/04 16:47	04/05/04 19:05
230SB100(5.5)	P404204-35	Soil	04/05/04 16:52	04/05/04 19:05
230SB100(7.5)	P404204-36	Soil	04/05/04 16:52	04/05/04 19:05
230SB100(10)	P404204-37	Soil	04/05/04 10:00	04/05/04 19:05
230SB101(3)	P404204-38	Soil	04/05/04 16:10	04/05/04 19:05
230SB101(7.5)	P404204-39	Soil	04/05/04 16:19	04/05/04 19:05
230SB101(10)	P404204-40	Soil	04/05/04 16:28	04/05/04 19:05
230SB101(5.5)	P404204-41	Soil	04/05/04 16:19	04/05/04 19:05
231SB116(3)	P404204-42	Soil	04/05/04 10:20	04/05/04 19:05
231SB116(5)	P404204-43	Soil	04/05/04 10:29	04/05/04 19:05
231SB116(7)	P404204-44	Soil	04/05/04 10:29	04/05/04 19:05
231SB116(10)	P404204-45	Soil	04/05/04 10:35	04/05/04 19:05





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P404234  
Reported:  
05/24/04 16:48

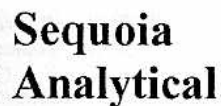
**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
231SB109(14.5)	P404234-01	Water	04/06/04 07:10	04/06/04 19:00
231SB112(10.5)	P404234-02	Water	04/06/04 08:50	04/06/04 19:00
231SB113(15)	P404234-03	Water	04/06/04 09:45	04/06/04 19:00
231SB111(16)	P404234-04	Water	04/06/04 11:05	04/06/04 19:00
228SB101(16)	P404234-05	Water	04/06/04 13:15	04/06/04 19:00
228SB102(16)	P404234-06	Water	04/06/04 16:30	04/06/04 19:00
38SB103(12)	P404234-07	Water	04/06/04 15:45	04/06/04 19:00
DUP040604	P404234-08	Water	04/06/04 15:45	04/06/04 19:00
38SB103RB	P404234-09	Water	04/06/04 17:25	04/06/04 19:00
TB040604	P404234-10	Water	04/06/04 17:30	04/06/04 19:00
231SB113(3)	P404234-11	Soil	04/06/04 07:43	04/06/04 19:00
231SB113(5.5)	P404234-12	Soil	04/06/04 07:47	04/06/04 19:00
231SB113(7.5)	P404234-13	Soil	04/06/04 07:47	04/06/04 19:00
231SB113(10)	P404234-14	Soil	04/06/04 07:54	04/06/04 19:00
231SB112(3)	P404234-15	Soil	04/06/04 08:27	04/06/04 19:00
231SB112(5.5)	P404234-16	Soil	04/06/04 08:33	04/06/04 19:00
231SB112(7.5)	P404234-17	Soil	04/06/04 08:33	04/06/04 19:00
231SB112(10)	P404234-18	Soil	04/06/04 08:45	04/06/04 19:00
231SB111(2.5)	P404234-19	Soil	04/06/04 10:34	04/06/04 19:00
231SB111(5)	P404234-20	Soil	04/06/04 10:40	04/06/04 19:00
231SB111(7)	P404234-21	Soil	04/06/04 10:40	04/06/04 19:00
231SB111(10)	P404234-22	Soil	04/06/04 10:44	04/06/04 19:00
228SB101(4.5)	P404234-23	Soil	04/06/04 12:54	04/06/04 19:00
228SB101(11)	P404234-24	Soil	04/06/04 13:00	04/06/04 19:00
228SB102(7.5)	P404234-25	Soil	04/06/04 14:19	04/06/04 19:00
38SB103(1.5)	P404234-26	Soil	04/06/04 15:13	04/06/04 19:00
38SB103(5)	P404234-27	Soil	04/06/04 15:18	04/06/04 19:00
38SB103(7.5)	P404234-28	Soil	04/06/04 15:18	04/06/04 19:00
38SB102(1.0)	P404234-29	Soil	04/06/04 16:40	04/06/04 19:00

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P404234  
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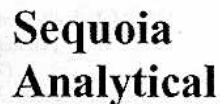
Project: Presidio Bldg. 207/231  
Project Number: 4089030006.00131  
Project Manager: Bill Feller

P404235  
Reported:  
05/20/04 13:39

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
38SB102(12)	P404235-01	Water	04/07/04 07:00	04/07/04 19:03
231SB105(12)	P404235-02	Water	04/07/04 08:25	04/07/04 19:03
231SB104(12)	P404235-03	Water	04/07/04 09:30	04/07/04 19:03
DUP040704-3	P404235-04	Water	04/07/04 09:30	04/07/04 19:03
207HP103(10)	P404235-05	Water	04/07/04 11:30	04/07/04 19:03
207HP102(12)	P404235-06	Water	04/07/04 11:50	04/07/04 19:03
38SB101(10.5)	P404235-07	Water	04/07/04 13:15	04/07/04 19:03
38SB100(10.5)	P404235-08	Water	04/07/04 13:55	04/07/04 19:03
38SB100RB	P404235-09	Water	04/07/04 14:25	04/07/04 19:03
TB040704	P404235-10	Water	04/07/04 14:30	04/07/04 19:03
231SB114(16)	P404235-11	Water	04/07/04 16:25	04/07/04 19:03
231SB105(3)	P404235-12	Soil	04/07/04 07:33	04/07/04 19:03
SB105(5.5)	P404235-13	Soil	04/07/04 07:37	04/07/04 19:03
231SB105(7.0)	P404235-14	Soil	04/07/04 07:37	04/07/04 19:03
231SB105(10)	P404235-15	Soil	04/07/04 07:50	04/07/04 19:03
231SB104(3)	P404235-16	Soil	04/07/04 08:29	04/07/04 19:03
231SB104(5)	P404235-17	Soil	04/07/04 08:33	04/07/04 19:03
231SB104(7)	P404235-18	Soil	04/07/04 08:33	04/07/04 19:03
231SB104(10)	P404235-19	Soil	04/07/04 08:40	04/07/04 19:03
38SB101(3)	P404235-20	Soil	04/07/04 12:40	04/07/04 19:03
38SB101(5.5)	P404235-22	Soil	04/07/04 12:48	04/07/04 19:03
38SB101(10)	P404235-23	Soil	04/07/04 12:54	04/07/04 19:03
38SB101(0.5)	P404235-25	Soil	04/07/04 13:07	04/07/04 19:03
38SB100(1)	P404235-26	Soil	04/07/04 13:32	04/07/04 19:03
38SB100(3)	P404235-27	Soil	04/07/04 13:32	04/07/04 19:03
38SB100(5)	P404235-28	Soil	04/07/04 13:40	04/07/04 19:03
38SB100(10)	P404235-29	Soil	04/07/04 13:50	04/07/04 19:03
231SB114(3)	P404235-30	Soil	04/07/04 15:42	04/07/04 19:03
231SB114(5)	P404235-32	Soil	04/07/04 15:46	04/07/04 19:03





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P404235  
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05/20/04 13:39

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
231SB114(7)	P404235-33	Soil	04/07/04 15:46	04/07/04 19:03
231SB114(10)	P404235-34	Soil	04/07/04 15:53	04/07/04 19:03
208SB100(6)	P404235-35	Soil	04/07/04 16:42	04/07/04 19:03
208SB100(7.5)	P404235-36	Soil	04/07/04 16:42	04/07/04 19:03
208SB100(10)	P404235-37	Soil	04/07/04 16:47	04/07/04 19:03
228SB100(4)	P404235-38	Soil	04/07/04 17:25	04/07/04 19:03

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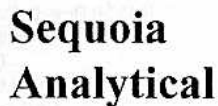
Project: Presidio Bldg. 207/231  
Project Number: 4089030006.00131  
Project Manager: Bill Feller

P404268  
Reported:  
05/25/04 09:37

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
208SB100(12)	P404268-01	Water	04/08/04 06:55	04/08/04 18:43
231SB115(16)	P404268-02	Water	04/08/04 08:05	04/08/04 18:43
DUP040804	P404268-03	Water	04/08/04 08:05	04/08/04 18:43
231SB106(10.5)	P404268-04	Water	04/08/04 09:00	04/08/04 18:43
207SB105(16)	P404268-05	Water	04/08/04 10:05	04/08/04 18:43
271SB100(10.5)	P404268-06	Water	04/08/04 11:10	04/08/04 18:43
207HP101(12)	P404268-07	Water	04/08/04 13:20	04/08/04 18:43
Source Water Blank	P404268-08	Water	04/08/04 13:40	04/08/04 18:43
207SB104(12)	P404268-09	Water	04/08/04 14:00	04/08/04 18:43
207HP100(12)	P404268-10	Water	04/08/04 15:45	04/08/04 18:43
207HP100TB	P404268-11	Water	04/08/04 16:15	04/08/04 18:43
231SB102(12)	P404268-12	Water	04/08/04 16:55	04/08/04 18:43
SB110(12)	P404268-13	Water	04/08/04 00:00	04/08/04 18:43
231SB115(3.0)	P404268-14	Soil	04/08/04 07:22	04/08/04 18:43
231SB115(5.5)	P404268-15	Soil	04/08/04 07:25	04/08/04 18:43
231SB115(7.5)	P404268-16	Soil	04/08/04 07:25	04/08/04 18:43
231SB115(10)	P404268-17	Soil	04/08/04 07:32	04/08/04 18:43
231SB106(3)	P404268-18	Soil	04/08/04 08:35	04/08/04 18:43
231SB106(5)	P404268-19	Soil	04/08/04 08:40	04/08/04 18:43
231SB106(7)	P404268-20	Soil	04/08/04 08:40	04/08/04 18:43
231SB106(10)	P404268-21	Soil	04/08/04 08:48	04/08/04 18:43
207SB105(3.5)	P404268-22	Soil	04/08/04 09:30	04/08/04 18:43
271SB100(2)	P404268-23	Soil	04/08/04 10:40	04/08/04 18:43
271SB100(3.5)	P404268-24	Soil	04/08/04 10:40	04/08/04 18:43
271SB100(5)	P404268-25	Soil	04/08/04 10:47	04/08/04 18:43
271SB100(7)	P404268-26	Soil	04/08/04 10:47	04/08/04 18:43
271SB100(9.5)	P404268-27	Soil	04/08/04 10:52	04/08/04 18:43
231SB110(3)	P404268-28	Soil	04/08/04 11:37	04/08/04 18:43
231SB110(5)	P404268-29	Soil	04/08/04 11:42	04/08/04 18:43





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Project Manager:Bill Feller

P404268  
Reported:  
05/25/04 09:37

## ANALYTICAL REPORT FOR SAMPLES

Sample ID	Location	Matrix	Laboratory ID	Date Sampled	Date Received
231SB110(7)	Water	Soil	P404268-30	04/08/04 11:42	04/08/04 18:43
231SB110(10)	Water	Soil	P404268-31	04/08/04 11:49	04/08/04 18:43
207SB104(3)	Water	Soil	P404268-32	04/08/04 13:35	04/08/04 18:43
207SB104(4)	Water	Soil	P404268-33	04/08/04 13:35	04/08/04 18:43
207SB104(5)	Water	Soil	P404268-34	04/08/04 13:35	04/08/04 18:43
207SB104(6)	Water	Soil	P404268-35	04/08/04 13:35	04/08/04 18:43
207SB104(7)	Water	Soil	P404268-36	04/08/04 13:35	04/08/04 18:43
207SB104(8)	Water	Soil	P404268-37	04/08/04 13:35	04/08/04 18:43
207SB104(9)	Water	Soil	P404268-38	04/08/04 13:35	04/08/04 18:43
207SB104(10)	Water	Soil	P404268-39	04/08/04 13:35	04/08/04 18:43
207SB104(11)	Water	Soil	P404268-40	04/08/04 13:35	04/08/04 18:43
207SB104(12)	Water	Soil	P404268-41	04/08/04 13:35	04/08/04 18:43
207SB104(13)	Water	Soil	P404268-42	04/08/04 13:35	04/08/04 18:43
207SB104(14)	Water	Soil	P404268-43	04/08/04 13:35	04/08/04 18:43
207SB104(15)	Water	Soil	P404268-44	04/08/04 13:35	04/08/04 18:43
207SB104(16)	Water	Soil	P404268-45	04/08/04 13:35	04/08/04 18:43
207SB104(17)	Water	Soil	P404268-46	04/08/04 13:35	04/08/04 18:43
207SB104(18)	Water	Soil	P404268-47	04/08/04 13:35	04/08/04 18:43
207SB104(19)	Water	Soil	P404268-48	04/08/04 13:35	04/08/04 18:43
207SB104(20)	Water	Soil	P404268-49	04/08/04 13:35	04/08/04 18:43
207SB104(21)	Water	Soil	P404268-50	04/08/04 13:35	04/08/04 18:43
207SB104(22)	Water	Soil	P404268-51	04/08/04 13:35	04/08/04 18:43
207SB104(23)	Water	Soil	P404268-52	04/08/04 13:35	04/08/04 18:43
207SB104(24)	Water	Soil	P404268-53	04/08/04 13:35	04/08/04 18:43
207SB104(25)	Water	Soil	P404268-54	04/08/04 13:35	04/08/04 18:43
207SB104(26)	Water	Soil	P404268-55	04/08/04 13:35	04/08/04 18:43
207SB104(27)	Water	Soil	P404268-56	04/08/04 13:35	04/08/04 18:43
207SB104(28)	Water	Soil	P404268-57	04/08/04 13:35	04/08/04 18:43
207SB104(29)	Water	Soil	P404268-58	04/08/04 13:35	04/08/04 18:43
207SB104(30)	Water	Soil	P404268-59	04/08/04 13:35	04/08/04 18:43
207SB104(31)	Water	Soil	P404268-60	04/08/04 13:35	04/08/04 18:43
207SB104(32)	Water	Soil	P404268-61	04/08/04 13:35	04/08/04 18:43
207SB104(33)	Water	Soil	P404268-62	04/08/04 13:35	04/08/04 18:43
207SB104(34)	Water	Soil	P404268-63	04/08/04 13:35	04/08/04 18:43
207SB104(35)	Water	Soil	P404268-64	04/08/04 13:35	04/08/04 18:43
207SB104(36)	Water	Soil	P404268-65	04/08/04 13:35	04/08/04 18:43
207SB104(37)	Water	Soil	P404268-66	04/08/04 13:35	04/08/04 18:43
207SB104(38)	Water	Soil	P404268-67	04/08/04 13:35	04/08/04 18:43
207SB104(39)	Water	Soil	P404268-68	04/08/04 13:35	04/08/04 18:43
207SB104(40)	Water	Soil	P404268-69	04/08/04 13:35	04/08/04 18:43
207SB104(41)	Water	Soil	P404268-70	04/08/04 13:35	04/08/04 18:43
207SB104(42)	Water	Soil	P404268-71	04/08/04 13:35	04/08/04 18:43
207SB104(43)	Water	Soil	P404268-72	04/08/04 13:35	04/08/04 18:43
207SB104(44)	Water	Soil	P404268-73	04/08/04 13:35	04/08/04 18:43
207SB104(45)	Water	Soil	P404268-74	04/08/04 13:35	04/08/04 18:43
207SB104(46)	Water	Soil	P404268-75	04/08/04 13:35	04/08/04 18:43
207SB104(47)	Water	Soil	P404268-76	04/08/04 13:35	04/08/04 18:43

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Project Number: 4089041001.102  
Project Manager: Bill Feller

P405251  
Reported:  
05/24/04 16:09

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
38SB100(1)	P405251-01	Soil	05/12/04 14:08	05/12/04 16:10
38SB100(3)	P405251-02	Soil	05/12/04 14:08	05/12/04 16:10
38SB100(5.5)	P405251-03	Soil	05/12/04 14:11	05/12/04 16:10
38SB100(10)	P405251-04	Soil	05/12/04 14:14	05/12/04 16:10
38SB101(0.5)	P405251-05	Soil	05/12/04 13:27	05/12/04 16:10
38SB101(3)	P405251-06	Soil	05/12/04 13:30	05/12/04 16:10
38SB101(5.5)	P405251-07	Soil	05/12/04 13:30	05/12/04 16:10
38SB101(10)	P405251-08	Soil	05/12/04 13:37	05/12/04 16:10
38SB102(10)	P405251-09	Soil	05/12/04 16:07	05/12/04 16:10
38SB103(10)	P405251-10	Soil	05/12/04 15:29	05/12/04 16:10
231SB114(3)	P405251-11	Soil	05/12/04 10:33	05/12/04 16:10
231SB114(5)	P405251-12	Soil	05/12/04 10:39	05/12/04 16:10
SB105(3)	P405251-13	Soil	05/12/04 11:51	05/12/04 16:10
231SB105(5.5)	P405251-14	Soil	05/12/04 11:54	05/12/04 16:10
231SB105(7)	P405251-15	Soil	05/12/04 11:54	05/12/04 16:10
231SB105(11)	P405251-16	Soil	05/12/04 12:09	05/12/04 16:10
231SB104(3)	P405251-17	Soil	05/12/04 11:08	05/12/04 16:10
231SB104(5)	P405251-18	Soil	05/12/04 11:12	05/12/04 16:10
231SB104(7)	P405251-19	Soil	05/12/04 11:12	05/12/04 16:10
231SB104(11)	P405251-20	Soil	05/12/04 11:24	05/12/04 16:10

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## APPENDIX E

### QUALITY CONTROL SUMMARY REPORT



**TO:** Mary Jo Heassler, Mactec E & C, Inc.

June 29, 2004

**FROM:** Donna Breaux, DataVal, Inc.

Mactec Project No. 4089041001 102

**QUALITY CONTROL SUMMARY REPORT FOR THE BUILDING 207/231 SITE, THE PRESIDIO OF SAN FRANCISCO, CA**

**LABORATORY:** Sequoia Analytical, Petaluma, CA

**SAMPLING DATES:** April 5, 6, 7, 8, 2004 and May 12, 2004

Data validation of Levels III and IV laboratory data packages was performed according to the project-specific guidelines. These guidelines were outlined in the Presidio-wide Quality Assurance Project Plan, Sampling and Analysis Plan, April, 2001; the U. S. Environmental Protection Agency Contract Laboratory Program National Functional Guidelines for Organic Data Review, October, 1999; and the U. S. Environmental Protection Agency Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, July 2002.

The data were reviewed for holding times, blanks, GC/MS tunes, initial calibrations, continuing calibration verification (CCV) standards, internal standards, laboratory control samples (LCS), surrogate recoveries, matrix spikes (MS), matrix spike duplicates (MSD), laboratory duplicates, ICP interference check standards, ICP serial dilutions, compound identification and quantitation, and field duplicate samples.

**The following paragraphs highlight the essential findings of the data validation effort:**

**I. Volatile Organic Compounds (VOCs) by GC/MS (8260B)**

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in sections C, E, F and I.

**A. Reporting Limits**

The laboratory reporting limits for VOCs in soil and water matrices met the project required reporting limits, with the following exceptions:

1. The laboratory reporting limits did not meet the project required reporting limits listed in Table 2-6.8-1 of the QAPP for acetone and carbon disulfide in soil matrix; and bromomethane in water matrix. In order to meet the project required reporting limits, the laboratory reported all VOC detects below the reporting limit and above the method detection limit (MDL). Those detects were flagged as 'J' by the laboratory and should be considered estimated values.
2. The reporting limits for all soils were raised due to dry weight correction.

**B. Holding Times**

Technical holding time criteria were met for all project samples.



C. Blanks

Target analytes were not observed in any laboratory method blanks or field QC blanks associated with the project samples, with the following exceptions:

1. Laboratory method blank 4040306-BLK1 had a detected level of toluene (1.9 ug/kg). The results for toluene in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
2. Laboratory method blank 4040330-BLK1 had detected levels of acetone at 28 ug/kg and toluene at 1.8 ug/kg. The results for acetone and toluene in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.
3. Laboratory method blank 4040262-BLK1 had a detected level of toluene at 0.096 ug/L. The associated samples were either non-detect for toluene, or had levels of toluene greater than five times the blank amount, and qualification was not required.
4. Laboratory method blank 4040331-BLK1 had detected levels of acetone at 28 ug/kg and toluene at 1.8. The associated samples were non-detect for acetone and toluene, and qualification was not required.
5. Laboratory method blank 4040337-BLK1 had detected levels of acetone at 8.4 ug/kg and toluene at 1.4 ug/kg. The results for acetone and toluene in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.
6. Laboratory method blank 4040359-BLK1 had a detected level of toluene (1.4 ug/kg). The results for toluene in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
7. Trip blank TB040504 had a detected level of methylene chloride at 0.24 ug/L. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The results for methylene chloride in the associated samples were changed to non-detect (U) if those results were less than ten times the blank amount.
8. Equipment blank 38SB103RB had a detected level of chloroform (0.68 ug/L). All associated project samples were non-detect for chloroform, and qualification was not required.
9. Equipment blank 38SB100RB had a detected level of chloroform (2.1 ug/L). All associated project samples were non-detect for chloroform, and qualification was not required.
10. Sample 'Source Water Blank' had detected levels of chloroform (27 ug/L), bromodichloromethane (1.7 ug/L), dibromochloromethane (0.08 ug/L) and acetone (2.2 ug/L). All associated project samples were non-detect for chloroform, bromodichloromethane, and dibromochloromethane, and qualification was not required. The results for acetone in the associated samples were changed to non-detect (U) if those results were less than ten times the blank amount.



See Table 2 of this report for a summary of qualifications due to blank contamination.

D. GC/MS Tunes

All QC criteria were met for the GC/MS tunes associated with the project samples.

E. Initial Calibration

Initial calibration criteria were met for all calibration standards associated with the project samples, with the following exceptions:

1. The 3/4/04 initial calibration analyzed on instrument MSV03 had two compounds with average relative response factors (RRF) less than 0.05, acetone (0.043) and vinyl acetate (0.039). The non-detected results for acetone and vinyl acetate in the associated samples were qualified as rejected (R) due to minimum average RRF failure. The detected results for acetone in the associated samples were qualified as estimated with a low bias (J-).
2. The 4/2/04 initial calibration analyzed on instrument MSV04 did not include target analyte 2-chloroethyl vinyl ether. The reported result for 2-chloroethyl vinyl ether in sample 228SB102(7.5) (P404234-25) was qualified as rejected (R) in this sample.

See Table 2 of this report for a summary of qualifications due to initial calibration minimum RRF failure.

F. Continuing Calibration

Continuing calibration criteria were met for all continuing calibration standards associated with the project samples, with the following exceptions:

1. Continuing calibration standards that failed high and were associated with samples that were non-detect for the failing compounds, did not require qualification and are not noted in this report.
2. The 4/13/04 at 18:29 soil matrix continuing calibration verification (CCV) standard analyzed on instrument MSV05, had one compound with a percent difference (%D) less than -25%: carbon disulfide (-26%). The associated samples were non-detect for carbon disulfide, and were qualified as estimated (UJ).
3. The 4/14/04 at 06:52 water matrix CCV analyzed on instrument MSV04, had one compound with a %D less than -25%: carbon disulfide (-30%). The associated samples were non-detect for carbon disulfide, and were qualified as estimated (UJ).
4. The 4/14/04 at 08:08 soil matrix CCV analyzed on instrument MSV05, had one compound with a %D less than -25%: carbon disulfide (-38%). The associated samples were non-detect for carbon disulfide, and were qualified as estimated (UJ).
5. The 4/15/04 at 07:53 soil matrix CCV analyzed on instrument MSV05, had one compound with a %D less than -25%: carbon disulfide (-29%).



The associated samples were non-detect for carbon disulfide, and were qualified as estimated (UJ).

6. The 4/15/04 at 06:58 water matrix CCV analyzed on instrument MSV04, had one compound with a %D less than -25%: carbon disulfide (-32%). The associated samples were non-detect for carbon disulfide, and were qualified as estimated (UJ).
7. The 4/16/04 at 07:05 soil matrix CCV analyzed on instrument MSV04, had two compounds with %D less than -25%: bromomethane (-30%) and carbon disulfide (-30%). The associated samples were non-detect for bromomethane and carbon disulfide, and were qualified as estimated (UJ).
8. The 4/8/04 at 07:34 water matrix CCV analyzed on instrument MSV03 had one compound with a daily relative response factor (RRF) less than 0.05, acetone (0.044). The non-detected results for acetone in the associated samples were qualified as rejected (R) due to minimum average RRF failure. The detected results for acetone in the associated samples were qualified as estimated with a low bias (J-).

See Table 2 of this report for a summary of qualifications due to continuing calibration percent difference and minimum RRF failures.

G. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples.

H. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with the project samples.

I. Surrogate Recoveries

Surrogate spike recoveries met QC acceptance criteria for all project samples, with the following exceptions:

1. Surrogate recoveries that failed in samples that required dilutions of 5X or greater did not require qualification and are not noted in this report.
2. Surrogate recoveries that failed high in samples that were non-detect did not require qualification and are not noted in this report.
3. The percent recovery for surrogate 4-bromofluorobenzene was outside the 59%-113% project acceptance criteria in sample 231SB102(7) (P404204-18) at 114%. The detected results in this sample were qualified as estimated with a high bias (J+).
4. The percent recovery for surrogate 4-bromofluorobenzene was outside the 59%-113% project acceptance criteria in sample 38SB102(1.0) (P404234-29) at 115%. The detected results in this sample were qualified as estimated with a high bias (J+).
5. The percent recovery for surrogate 4-bromofluorobenzene was outside the 59%-113% project acceptance criteria in sample 38SB102(5.5) (P404234-31) at 114%. The detected results in this sample were qualified as estimated with a high bias (J+).



6. The percent recovery for surrogate 4-bromofluorobenzene was outside the 59%-113% project acceptance criteria in sample 231SB105(5.5) (P404235-13) at 122%. The detected results in this sample were qualified as estimated with a high bias (J+).
7. The percent recovery for surrogate 4-bromofluorobenzene was outside the 59%-113% project acceptance criteria at 181%, and the percent recovery for surrogate toluene-d8 was outside the 84%-138% project acceptance criteria at 153% in sample 231SB105(7.0) (P404235-14). The detected results in this sample were qualified as estimated with a high bias (J+).
8. The percent recovery for surrogate 4-bromofluorobenzene was outside the 59%-113% project acceptance criteria in sample 231SB104(5) (P404235-17) at 119%. The detected results in this sample were qualified as estimated with a high bias (J+).

See Table 2 of this report for a summary of qualifications due to surrogate recovery failure.

J. Internal Standards

Internal standard areas and retention times met QC acceptance criteria for all project samples.

K. Compound Identification and Quantitation

For the samples that received full data validation, no problems were observed with compound identification and quantitation. Samples 228SB101(16), 228SB102(16), 38SB103(12), DUP040604, 38SB103RB, TB040604, 228SB101(4.5), 228SB102(7.5), 38SB103(1.5), 38SB103(5), 38SB103(7.5), 38SB102(1.0), 38SB102(3.5), 38SB102(5.5), 38SB102(10) and 38SB103(10) in laboratory sample delivery group P404234 received full (Level IV) data validation. This included re-calculation of GC/MS tunes, initial and continuing calibrations, surrogate values, and internal standard areas; in addition to re-calculation of all reported results for these samples. For the samples that received full data validation, all recalculated results were verified to match those reported by the laboratory.

II. **Polynuclear Aromatic Hydrocarbons (PAHs) by GC/MS (8270C - SIM)**

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in Sections C, G, H and J.

A. Reporting Limits

The laboratory reporting limits for PAHs met the project required reporting limits, with the following exception:

1. The reporting limits for all soils were raised due to dry weight correction.

B. Holding Times

Technical holding time criteria were met for all project samples.



C. Blanks

Target analytes were not observed in any laboratory method blanks associated with the project samples. Target analytes were not observed in any field blanks or equipment blanks, with the following exception:

1. Sample 'Source Water Blank' had a detected level of naphthalene at 0.058 ug/L. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The detected results for naphthalene in samples 208SB100(12) (P404268-01) and 271SB100(10.5) (P404268-06) were less than five times the blank amount. The results for naphthalene were changed to non-detect (U) in these samples due to blank contamination.

See Table 2 of this report for a summary of qualifications due to blank contamination.

D. GC/MS Tunes

All QC criteria were met for the GC/MS tunes associated with the project samples.

E. Initial Calibration

Initial calibration criteria were met for all calibration standards associated with the project samples.

F. Continuing Calibration

Continuing calibration criteria were met for all continuing calibration verification standards associated with the project samples.

G. Internal Standards

Internal standard areas and retention times met QC acceptance criteria for all project samples, with the following exceptions:

1. Internal standard perylene-d12 was outside the -50% to +100% acceptance criteria in samples 38SB100(1) (P404235-26), 38SB100(3) (P404235-27) and 38SB100(5) (P404235-28). The compounds associated with this internal standard were qualified as estimated with a low bias (J-/UJ) due to low internal standard area counts.

See Table 2 of this report for a summary of qualifications due to internal standard area count failure.

H. Surrogate Recoveries

Surrogate spike recoveries met QC acceptance criteria for all project samples, with the following exceptions:

1. Failed surrogate recoveries in samples that required dilutions of 5X or greater did not require qualification and are not noted in this report.
2. Surrogate recoveries that failed high in samples that were non-detect did not require qualification and are not noted in this report.



3. The percent recoveries for surrogates 2-fluorobiphenyl and terphenyl-d14 were outside project acceptance criteria in sample DUP040604 (P404234-08) at 38% and 7%, respectively. The results for all PAHs in this sample were qualified as estimated with a low bias (J-/UJ) due to surrogate percent recovery failure.
4. The percent recoveries for surrogates 2-fluorobiphenyl and terphenyl-d14 were outside project acceptance criteria in sample DUP040704-3 (P404235-04) at 30% and 9%, respectively. The results for all PAHs in this sample were qualified as estimated with a low bias (J-/UJ) due to surrogate percent recovery failure.
5. The percent recoveries for two of three surrogates were less than 10% in project sample 271SB100(7) (P404268-26), which required rejection of non-detected results. The recoveries for surrogates nitrobenzene-d5 and 2-fluorobiphenyl were 8% and 5%, respectively. The results for all PAHs associated with these surrogates were qualified as rejected (R). The remaining results in this sample were qualified as estimated with a low bias (J-/UJ) due to surrogate percent recovery failure.
6. The percent recoveries for surrogates nitrobenzene-d5 and 2-fluorobiphenyl were outside project acceptance criteria in sample 271SB100(9.5) (P404268-27) at 18% and 11%, respectively. The results for all PAHs in this sample were non-detect and qualified as estimated (UJ) due to surrogate percent recovery failure.

See Table 2 of this report for a summary of qualifications due to surrogate recovery failure.

I. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with the project samples.

J. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples, with the following exceptions

1. The percent recoveries for pyrene were outside the 35%-142% project acceptance criteria in QC samples 231SB103(10.5) MS/MSD at 25% and 34%, respectively. The detected result for pyrene in the parent sample was qualified as estimated with a low bias (J-) due to matrix spike recovery failure.
2. The relative percent difference (RPD) for acenaphthene was outside the 19% RPD acceptance criteria in QC samples 231SB103(7) MS/MSD at 22%. The non-detected result for acenaphthene in the parent sample qualified as estimated (UJ).

See Table 2 of this report for a summary of qualifications due to matrix spike recovery and RPD failure.



K. Compound Identification and Quantitation

For the samples that received full data validation, no problems were observed with compound identification and quantitation. Samples 38SB103(12), DUP040604, 38SB103RB, 38SB103(1.5), 38SB103(5), 38SB103(7.5), 38SB102(1.0), 38SB102(3.5), 38SB102(5.5), 38SB102(10) and 38SB103(10) in laboratory sample delivery group P404234 received full (Level IV) data validation. This included re-calculation of GC/MS tunes, initial and continuing calibrations, surrogate values, and internal standard areas; in addition to re-calculation of all reported results for these samples. For the samples that received full data validation, all recalculated results were verified to match those reported by the laboratory.

III. Total Petroleum Hydrocarbons - TPH-Gasoline Range (8015B)

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in sections C, F and H.

A. Reporting Limits

The laboratory reporting limits for TPH-gasoline in soil and water matrices met the project required reporting limits, with the following exception:

1. The reporting limits for all soils were raised due to dry weight correction.

B. Holding Times

Technical holding time criteria were met for all project samples.

C. Blanks

Target analytes were not observed in any laboratory method blanks or field QC blanks associated with the project samples, with the following exceptions:

1. Laboratory method blank 4040250-BLK1 had a detected level of TPH-gasoline at 39 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
2. Laboratory method blank 4040278-BLK1 had a detected level of TPH-gasoline at 49 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
3. Laboratory method blank 4040279-BLK1 had a detected level of TPH-gasoline at 14 ug/L. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
4. Laboratory method blank 4040336-BLK1 had a detected level of TPH-gasoline at 75 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.



5. Laboratory method blank 4040336-BLK2 had a detected level of TPH-gasoline at 62 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
6. Laboratory method blank 4040305-BLK1 had a detected level of TPH-gasoline at 14 ug/L. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
7. Laboratory method blank 4040369-BLK1 had a detected level of TPH-gasoline at 62 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
8. Laboratory method blank 4040398-BLK1 had a detected level of TPH-gasoline at 31 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
9. Laboratory method blank 4040418-BLK1 had a detected level of TPH-gasoline at 59 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
10. Laboratory method blank 4040476-BLK1 had a detected level of TPH-gasoline at 55 ug/kg. The results for TPH-gasoline in the associated samples were greater than 5 times the blank amount, and qualification was not required.
11. Laboratory method blank 4040339-BLK1 had a detected level of TPH-gasoline at 12 ug/L. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
12. Laboratory method blank 4040372-BLK1 had a detected level of TPH-gasoline at 11 ug/L. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
13. Laboratory method blank 4040500-BLK1 had a detected level of TPH-gasoline at 43 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
14. Laboratory method blank 4040452-BLK1 had a detected level of TPH-gasoline at 41 ug/kg. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
15. Laboratory method blank 4040455-BLK1 had a detected level of TPH-gasoline at 25 ug/L. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.



16. Laboratory method blank 4040343-BLK1 had a detected level of TPH-gasoline at 24 ug/L. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
17. Equipment blank 231SB103(RB) (P404204-06) had a detected level TPH-gasoline at 19 ug/L. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
18. Equipment blank 38SB103RB (P404234-09) had a detected level TPH-gasoline at 51 ug/L. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
19. Equipment blank 38SB100RB (P404235-09) had a detected level TPH-gasoline at 19 ug/L. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
20. Sample 'Source Water Blank' (P404268-08) had a detected level TPH-gasoline at 27 ug/L. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The results for TPH-gasoline in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.

See Table 2 of this report for a summary of qualifications due to blank contamination.

D. Initial Calibration

Initial calibration criteria were met for all calibration standards associated with the project samples.

E. Continuing Calibration

Continuing calibration criteria were met for all continuing calibration standards associated with the project samples.



F. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples, with the following exceptions:

1. The percent recoveries for TPH-gasoline failed the 65%-135% acceptance criteria in QC samples 231SB100(3) MS/MSD at 62% and 38%, respectively. In addition, the RPD between the MS/MSD results failed the 35% RPD acceptance criteria at 48%. The result for TPH-gasoline in the parent sample was non-detect and qualified as estimated (UJ). (QC batch 4040250)
2. The percent recoveries for TPH-gasoline failed the 65%-135% acceptance criteria in QC samples 231SB111(2.5) MS/MSD at 46% and 15%, respectively. The detected result for TPH-gasoline in the parent sample was qualified as estimated with a low bias (J-). (QC batch 4040336)
3. The percent recovery for TPH-gasoline failed the 65%-135% acceptance criteria in QC sample 38SB103(1.5) MS at 64%. The result for TPH-gasoline in the parent sample was non-detect and qualified as estimated (UJ). (QC batch 4040398)
4. The percent recoveries for TPH-gasoline failed the 65%-135% acceptance criteria in QC samples 231SB115(10) MS/MSD at 52% and 52%, respectively. The detected result for TPH-gasoline in the parent sample was qualified as estimated with a low bias (J-). (QC batch 4040500)

See Table 2 of this report for a summary of qualifications due to matrix spike percent recovery and RPD failures.

G. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with the project samples.

H. Surrogate Recoveries

Surrogate spike recoveries met QC acceptance criteria for all project samples, with the following exceptions:

1. The percent recovery for surrogate 4-bromofluorobenzene failed the 65%-135% project acceptance criteria in sample 231SB101(5.5) (P404204-14) at 54%. The detected result for TPH-gasoline was qualified as estimated with a low bias (J-). The non-detected result for unknown fuel hydrocarbons was qualified as estimated (UJ) in this sample.
2. The percent recovery for surrogate 4-bromofluorobenzene failed the 65%-135% project acceptance criteria in sample 231SB101(7.5) (P404204-15) at 55%. The detected result for TPH-gasoline was qualified as estimated with a low bias (J-). The non-detected result for unknown fuel hydrocarbons was qualified as estimated (UJ) in this sample.
3. The percent recovery for surrogate 4-bromofluorobenzene failed the 65%-135% project acceptance criteria in sample 231SB105(10)



(P404235-15) at 44%. The detected result for unknown fuel hydrocarbons was qualified as estimated with a low bias (J-). The non-detected result for TPH-gasoline was qualified as estimated (UJ) in this sample.

4. The percent recovery for surrogate 4-bromofluorobenzene failed the 65%-135% project acceptance criteria in sample 231SB115(10) (P404268-17) at 61%. The detected result for TPH-gasoline was qualified as estimated with a low bias (J-). The non-detected result for unknown fuel hydrocarbons was qualified as estimated (UJ) in this sample.

See Table 2 of this report for a summary of qualifications due to surrogate percent recovery failure.

I. Compound Identification and Quantitation

For the samples that received full data validation, no problems were observed with compound identification and quantitation. Samples 231SB109(14.5), 231SB112(10.5), 231SB113(15), 231SB111(16), 228SB101(16), 228SB102(16), 38SB103(12), DUP040604, 38SB103RB, 231SB113(3), 231SB113(5.5), 231SB113(7.5), 231SB113(10), 231SB112(3), 231SB112(5.5), 231SB112(7.5), 231SB112(10), 231SB111(2.5), 231SB111(5), 231SB111(7), 231SB111(10), 228SB101(4.5), 228SB101(11), 228SB102(7.5), 38SB103(1.5), 38SB103(5), 38SB103(7.5), 38SB102(1.0), 38SB102(3.5), 38SB102(5.5), 38SB102(10) and 38SB103(10) in laboratory sample delivery group P404234 received full (Level IV) data validation. This included re-calculation of initial and continuing calibrations, and surrogate values; in addition to re-calculation of the reported results for TPH-gasoline and unknown fuel hydrocarbons in these samples. For the samples that received full data validation, all recalculated results were verified to match those reported by the laboratory.

IV. **Total Petroleum Hydrocarbons – TPH-Diesel/TPH-Fuel Oil Range (8015B)**

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in sections B, C F and H.

A. Reporting Limits

The laboratory reporting limits for TPH-diesel and TPH-fuel oil in water and soil matrices met the project required reporting limits, with the following exception:

1. The reporting limits for all soils were raised due to dry weight correction.

B. Holding Times

Technical holding time criteria were met for all project samples, with the following exceptions:

1. Samples 38SB103(1.5) (P404234-26) and 38SB103(5) (P404234-27) required re-extraction due to extremely low surrogate recoveries. The



re-extractions were done 29 days past the 14-day extraction holding time. The re-extracted results were considered the more usable data set, since comparison of the detected values of the original and re-extracted results clearly indicates a problem in the original extractions. The results for TPH-diesel, TPH-fuel oil and unknown fuel hydrocarbons were qualified as estimated with a low bias (J-/UJ). See Table 2 of this report for a summary of qualifications due to missed extraction holding times.

C. Blanks

Target analytes were not observed in any laboratory method blanks or field QC blanks associated with the project samples, with the following exceptions:

1. Laboratory method blank 4040267-BLK1 had detected levels of TPH-fuel oil (0.99 mg/kg) and unknown fuel hydrocarbons (2.1 mg/kg). The results for TPH-fuel oil and unknown hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
2. Laboratory method blank 4040268-BLK1 had a detected level of unknown fuel hydrocarbons at 0.022 mg/L. The results for unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
3. Laboratory method blank 4040364-BLK1 had a detected level of unknown fuel hydrocarbons at 1.3 mg/kg. The results for unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
4. Laboratory method blank 4040395-BLK1 had detected levels of TPH-diesel (1.4 mg/kg), TPH-fuel oil (0.92 mg/kg) and unknown fuel hydrocarbons (1.4 mg/kg). The results for TPH-fuel oil in the associated samples were greater than five times the blank amount, and qualification was not required. The results for TPH-diesel and unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
5. Laboratory method blank 4050449-BLK1 had detected levels of TPH-diesel (1.4 mg/kg), TPH-fuel oil (1.1 mg/kg) and unknown fuel hydrocarbons (1.4 mg/kg). The results for TPH-fuel oil and unknown hydrocarbons in the associated samples were greater than five times the blank amount, and qualification was not required. The results for TPH-diesel in the associated samples were either non-detect, or had levels greater than five times the blank amount, and qualification was not required.



6. Laboratory method blank 4040487-BLK1 had detected levels of TPH-diesel (1.4 mg/kg), TPH-fuel oil (1.1 mg/kg) and unknown fuel hydrocarbons (1.4 mg/kg). The results for TPH-diesel, TPH-fuel oil and unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
7. Laboratory method blank 4040366-BLK1 had a detected level of unknown fuel hydrocarbons at 0.016 mg/L. The results for unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
8. Laboratory method blank 4040553-BLK1 had detected levels of TPH-fuel oil (0.094 mg/kg) and unknown fuel hydrocarbons (1.7 mg/kg). The results for TPH-fuel oil and unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
9. Laboratory method blank 4050332-BLK1 had a detected level of unknown fuel hydrocarbons (1.1 mg/kg). The results for unknown fuel hydrocarbons in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
10. Equipment blank 231SB103(RB) had a detected level of unknown fuel hydrocarbons at 0.03 mg/L. The associated water samples were greater than five times the blank amount and qualification was not required. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of unknown fuel hydrocarbons in the associated soil samples were either non-detect, or had unknown fuel hydrocarbons greater than five times the blank amount, and qualification was not required.
11. Equipment blank 38SB103RB had a detected level of unknown fuel hydrocarbons at 0.03 mg/L. The results for unknown fuel hydrocarbons in the associated water samples were changed to non-detect (U) if those results were less than five times the blank amount. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of unknown fuel hydrocarbons in the associated soil samples were either non-detect, or had unknown fuel hydrocarbons greater than five times the blank amount, and qualification was not required.
12. Equipment blank 38SB100RB had a detected level of unknown fuel hydrocarbons at 0.024 mg/L. The results for unknown fuel hydrocarbons in the associated water samples were changed to non-detect (U) if those results were less than five times the blank amount. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of unknown fuel hydrocarbons in the associated soil samples were either non-detect, or had unknown fuel hydrocarbons greater than five times the blank amount, and qualification was not required.



13. Sample 'Source Water Blank' had a detected level of unknown fuel hydrocarbons at 0.032 mg/L. The results for unknown fuel hydrocarbons in the associated water samples were changed to non-detect (U) if those results were less than five times the blank amount. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of unknown fuel hydrocarbons in the associated soil samples were either non-detect, or had unknown fuel hydrocarbons greater than five times the blank amount, and qualification was not required.

See Table 2 of this report for a summary of qualifications due to blank contamination.

D. Initial Calibration

Initial calibration criteria were met for all calibration standards associated with the project samples.

E. Continuing Calibration

Continuing calibration criteria were met for all continuing calibration standards associated with the project samples.

F. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples, with the following exceptions:

1. The percent recoveries for TPH-diesel failed the 65%-135% acceptance criteria in QC samples 231SB100(3) (P404204-09) MS/MSD at 63% and 44%, respectively. The detected result for diesel in the parent sample was qualified as estimated with a low bias (J-). (QC batch 4040267)
2. The percent recovery for TPH-diesel failed the 65%-135% acceptance criteria in QC sample 231SB111(2.5) (P404234-19) MS at 45%. The detected result for diesel in the parent sample was qualified as estimated with a low bias (J-). (QC batch 4040395)
3. The percent recovery for TPH-diesel failed the 65%-135% acceptance criteria in QC sample 231SB105(12) (P404235-02) MS at 58%. The detected result for diesel in the parent sample was qualified as estimated with a low bias (J-). (QC batch 4040298)
4. The relative percent difference (RPD) between the MS and MSD failed the 35% RPD project acceptance criteria for TPH-diesel in QC samples 38SB103(1.5) (P404234-26) MS/MSD at 46%. The detected result for TPH-diesel in the parent sample was qualified as estimated (J) due to RPD failure. (QC Batch 4050449)

See Table 2 of this report for a summary of qualifications due to matrix spike percent recovery and RPD failures.

G. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with all project samples.



#### H. Surrogate Recoveries

Surrogate spike recoveries met QC acceptance criteria for all project samples, with the following exceptions:

1. Surrogate recoveries that failed in samples that required dilutions of 5X or greater did not require qualification and are not noted in this report.
2. The percent recoveries for surrogates octacosane and o-terphenyl were outside the 65%-135% project acceptance criteria in samples 231SB112(3) (P404234-15) and 231SB112(7.5) (P404234-17). The surrogates in both samples failed high. The detected results for TPH-fuel oil and unknown fuel hydrocarbons were qualified as estimated with a high bias (J+).

See Table 2 of this report for a summary of qualifications due to surrogate percent recovery failure.

#### I. Compound Identification and Quantitation

For the samples that received full data validation, no problems were observed with compound identification and quantitation. Samples 231SB109(14.5), 231SB112(10.5), 231SB113(15), 231SB111(16), 228SB101(16), 228SB102(16), 38SB103(12), DUP040604, 38SB103RB, 231SB113(3), 231SB113(5.5), 231SB113(7.5), 231SB113(10), 231SB112(3), 231SB112(5.5), 231SB112(7.5), 231SB112(10), 231SB111(2.5), 231SB111(5), 231SB111(7), 231SB111(10), 228SB101(4.5), 228SB101(11), 228SB102(7.5), 38SB103(1.5), 38SB103(5), 38SB103(7.5), 38SB102(1.0), 38SB102(3.5) and 38SB102(5.5) in laboratory sample delivery group P404234, received full (Level IV) data validation. This included re-calculation of initial and continuing calibrations, and surrogate values; in addition to re-calculation of the reported results for TPH-diesel/fuel oil and unknown fuel hydrocarbons in these samples. For the samples that received full data validation, all recalculated results were verified to match those reported by the laboratory.

### V. Aromatic Volatiles (BTEX) by GC (8021B)

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in sections C, F and H.

#### A. Reporting Limits

All laboratory reporting limits for benzene, toluene, ethylbenzene and xylenes met the project required reporting limits, with the following exception:

1. The reporting limits for all soils were raised due to dry weight correction.

#### B. Holding Times

Technical holding time criteria were met for all project samples.



C. Blanks

Target analytes were not observed in any trip blanks, equipment blanks or field blanks associated with the project samples. Target analytes were not observed in any laboratory blanks associated with all project samples, with the following exceptions:

1. Laboratory method blank 4040250-BLK1 had detected levels of toluene (0.28 ug/kg), ethylbenzene (0.27 ug/kg) and xylenes (1.1 ug/kg). The results for toluene, ethylbenzene and xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.
2. Laboratory method blank 4040278-BLK1 had detected levels of benzene (0.14 ug/kg), toluene (0.35 ug/kg), ethylbenzene (0.45 ug/kg) and xylenes (1.8 ug/kg). The results for benzene and toluene in the associated samples were either non-detect, or had levels of benzene and toluene greater than five times the blank amounts, and qualification was not required. The results for ethylbenzene and xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.
3. Laboratory method blank 4040399-BLK1 had detected levels of toluene (46 ug/kg) and xylenes (92 ug/kg). The results for toluene and xylenes in the associated samples were greater than five times the blank amounts, and qualification was not required.
4. Laboratory method blank 4040336-BLK1 had detected levels of toluene (0.82 ug/kg), ethylbenzene (0.38 ug/kg) and xylenes (1.5 ug/kg). The results for toluene, ethylbenzene and xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.
5. Laboratory method blank 4040305-BLK1 had a detected level of benzene (0.16 ug/L). The results for benzene in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
6. Laboratory method blank 4040369-BLK1 had detected levels of toluene (0.29 ug/kg), ethylbenzene (0.37 ug/kg) and xylenes (1.4 ug/kg). The results for toluene in the associated samples were greater than five times the blank amount, and qualification was not required. The results for ethylbenzene and xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.
7. Laboratory method blank 4040398-BLK1 had detected levels of toluene (0.27 ug/kg), ethylbenzene (0.34 ug/kg) and xylenes (1.2 ug/kg). The results for toluene in the associated samples were greater than five times the blank amount, and qualification was not required. The results for ethylbenzene and xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.



8. Laboratory method blank 4040398-BLK2 had detected levels of toluene (0.20 ug/kg) and xylenes (0.62 ug/kg). The results for toluene in the associated samples were greater than five times the blank amount, and qualification was not required. The results for xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
9. Laboratory method blank 4040476-BLK1 had detected levels of toluene (0.20 ug/kg) and xylenes (0.62 ug/kg). The results for toluene in the associated samples were greater than five times the blank amount, and qualification was not required. The results for xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
10. Laboratory method blank 4040455-BLK1 had a detected level of xylenes (0.25 ug/L). The associated sample was non-detect for xylenes, and qualification was not required.
11. Laboratory method blank 4040500-BLK1 had detected levels of toluene (1.1 ug/kg), ethylbenzene (0.36 ug/kg) and xylenes (1.3 ug/kg). The results for toluene, ethylbenzene and xylenes in the associated samples were changed to non-detect (U) if those results were less than five times the blank amounts.

See Table 2 of this report for a summary of qualifications due to blank contamination.

D. Initial Calibration

Initial calibration criteria were met for all calibration standards associated with the project samples.

E. Continuing Calibration

Continuing calibration criteria were met for all continuing calibration standards associated with the project samples.

When data from two columns was presented and one had acceptable percent differences and the other did not, the laboratory used the column in control for the primary analysis.

F. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples, with the following exceptions:

1. The percent recoveries failed the 65%-135% project acceptance criteria in QC sample 231SB100(3) (P404204-09) MSD for benzene (59%), toluene (50%), ethylbenzene (47%) and xylenes (46%). In addition, the same compounds failed the 35% relative percent difference (RPD) criterion between the MS and MSD. The results for benzene, toluene, ethylbenzene and xylenes in the parent sample were qualified as estimated with a low bias (J-/UJ) due to matrix spike percent recovery and RPD failure. (QC Batch 4040250)



2. The percent recoveries failed the 65%-135% project acceptance criteria in QC sample 231SB111(2.5) (P404234-19) MSD for benzene (56%), toluene (56%), ethylbenzene (45%) and xylenes (45%). In addition, the same compounds failed the 35% relative percent difference (RPD) criterion between the MS and MSD. The results for benzene, toluene, ethylbenzene and xylenes in the parent sample were qualified as estimated with a low bias (J-/UJ) due to matrix spike percent recovery and RPD failure. (QC Batch 4040336)

See Table 2 of this report for a summary of qualifications due to matrix spike percent recovery and RPD failures.

G. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with the project samples.

H. Surrogate Recoveries

Surrogate spike recoveries met QC acceptance criteria for all project samples, with the following exceptions:

1. Qualification was not required for surrogates that failed high and were associated with samples with non-detect results. These failures were not noted in this report.
2. The percent recovery for surrogate a,a,a-trifluorotoluene was outside the 65%-135% project acceptance criteria in sample 231SB101(7.5) (P404204-15) at 58%. The non-detected results for benzene, toluene, ethylbenzene and xylenes were qualified as estimated (UJ).

See Table 2 of this report for a summary of qualifications due to surrogate percent recovery failure.

I. Compound Identification and Quantitation

For the samples that received full data validation, no problems were observed with compound identification and quantitation. Samples 231SB109(14.5), 231SB112(10.5), 231SB113(15), 231SB111(16), 231SB113(3), 231SB113(5.5), 231SB113(7.5), 231SB113(10), 231SB112(3), 231SB112(5.5), 231SB112(7.5), 231SB112(10), 231SB111(2.5), 231SB111(5), 231SB111(7), 231SB111(10) and 228SB101(11), in laboratory sample delivery group P404234, received full (Level IV) data validation. This included re-calculation of initial and continuing calibrations, and surrogate values; in addition to re-calculation of the reported results for BTEX in these samples. For the samples that received full data validation, all recalculated results were verified to match those reported by the laboratory.

Although several samples had target compounds that failed the percent difference criterion between the primary and confirmation results, the presence of TPH-gasoline in the samples was considered acceptable confirmation of the presence of benzene, toluene, ethylbenzene and xylenes in those samples.



**VI. Polychlorinated Biphenyls (PCBs) (8082)**

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in Sections B, F and H.

**A. Reporting Limits**

The laboratory reporting limits for pesticides met the project required reporting limits, with the following exception:

1. The reporting limits for all soils were raised due to dry weight correction.

**B. Holding Times**

Technical holding time criteria were met for all project samples, with the following exceptions:

1. The 7-day extraction holding times were exceeded in samples 231SB105(12) (P404235-02), 231SB104(12) (P404235-03) and DUP040704-3 (P404235-04) by two days; and the 7-day extraction holding time was exceeded in sample Source Water Blank (P404268-08) by one day. According to the laboratory case narrative, the holding times were missed due to a laboratory error. The non-detect results for PCBs in these samples were qualified as estimated (UJ).

See Table 2 of this report for a summary of qualifications due to missed extraction holding times.

**C. Blanks**

Target analytes were not observed in any laboratory method blanks associated with the project samples. Target analytes were not observed in the field blank associated with the project samples.

**D. Initial Calibration**

Initial calibration criteria were met for all calibration standards associated with the project samples.

**E. Continuing Calibration**

Continuing calibration criteria were met for all continuing calibration verification standards associated with the project samples, with the following exception:

1. Continuing calibration standards that had compounds with percent differences that failed high (%D > +15%), and were associated with samples that were non-detect for those compounds, did not require qualification and are not noted in this report.



F. Surrogate Recoveries

Surrogate spike recoveries met QC acceptance criteria for all project samples, with the following exceptions:

1. The percent recoveries for surrogate decachlorobiphenyl (DCB) failed the 65%-135% project acceptance criteria in samples 231SB105(12) (P404235-02) at 46%, and DUP040704-3 (P404235-04) at 23%. The compounds associated with surrogate DCB, PCB-1248, PCB-1254, and PCB-1260, were non-detect in these samples and qualified as estimated (UJ).
2. The percent recoveries for surrogate tetrachloro-meta-xylene (TCMX) failed the 65%-135% project acceptance criteria in samples 231SB105(10) (P404235-15) at 48%, and 231SB104(10) (P404235-19) at 52%. The compounds associated with surrogate TCMX, PCB-1016, PCB-1221, PCB-1232 and PCB-1242, were non-detect in these samples and were qualified as estimated (UJ).
3. The percent recoveries for surrogates DCB and TCMX failed the 65%-135% project acceptance criteria in sample 231SB104(7) (P404235-18) at 60% and 53%, respectively. The results for all PCBs in this sample were non-detect and qualified as estimated (UJ).

See Table 2 of this report for a summary of qualifications due to surrogate percent recovery failure.

G. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with the project samples.

H. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples, with the following exception:

1. The percent recovery for PCB1260 was outside the 65%-135% project acceptance criteria in QC sample 231SB105(12) (P404235-02) MS at 64%. The parent sample was non-detect for PCB-1260, and qualified as estimated (UJ). (QC Batch 4040394)

See Table 2 of this report for a summary of qualifications due to matrix spike percent recovery failure.

VII. Metals (6020)

Overall, the data are usable as reported with any added qualifiers. Qualifications were required for the reasons noted in sections C, E and I.

A. Reporting Limits

The laboratory reporting limits met the project required reporting limits, with the following exception:

1. The reporting limits for all soils were raised due to dry weight correction.

B. Holding Times

Technical holding time criteria were met for all project samples.



C. Blanks

Target analytes were not observed in any laboratory method blanks or field QC blanks associated with the project samples, with the following exceptions:

1. Laboratory method blank 4040218-BLK1 had a detected level of chromium at 0.14 mg/kg. The associated samples had results for chromium greater than five times the blank amount, and qualification was not required.
2. Laboratory method blank 4040324-BLK1 had a detected level of zinc at 4.6 ug/L. The results for zinc in the associated samples were changed to non-detect (U) if those results were less than five times the blank amount.
3. Laboratory method blank 4040288-BLK1 had detected levels of cadmium (0.017 mg/kg) and chromium (0.14 mg/kg). The associated samples had results for cadmium and chromium greater than five times the blank amounts, and qualification was not required.
4. Laboratory method blank 4040321-BLK1 had detected levels of cadmium (0.0096 mg/kg) and chromium (0.30 mg/kg). The associated samples had results for cadmium and chromium greater than five times the blank amounts, and qualification was not required.
5. Equipment blank 231SB103RB had detected levels of arsenic at 3.2 ug/L, chromium at 2.0 ug/L, and zinc at 12 ug/L. The results for arsenic, chromium and zinc in the associated water samples were changed to non-detect (U) if those results were less than five times the blank amounts. The values were converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of arsenic, chromium and zinc in the associated soil samples were greater than five times the blank amounts, and qualification was not required.
6. Equipment blank 38SB103RB had a detected level of cadmium at 0.34 ug/L. The results for cadmium in the associated water samples were changed to non-detect (U) if those results were less than five times the blank amount. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of cadmium in the associated soil samples were greater than five times the blank amount, and qualification was not required.
7. Equipment blank 38SB100RB had detected levels of arsenic at 3.6 ug/L, cadmium at 0.22 ug/L, chromium at 2.4 ug/L, and zinc at 19 ug/L. The results for arsenic, cadmium, chromium and zinc in the associated water samples were changed to non-detect (U) if those results were less than five times the blank amounts. The values were converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of arsenic, cadmium, chromium and zinc in the associated soil samples were greater than five times the blank amounts, and qualification was not required.



8. Sample 'Source Water Blank' had a detected level of zinc at 19 ug/L. The results for zinc in the associated water samples were non-detect and qualification was not required. The value was converted to solid matrix units and the project samples were evaluated for blank contamination. The levels of zinc in the associated soil samples were greater than five times the blank amount, and qualification was not required. See Table 2 of this report for a summary of qualifications due to blank contamination.

D. Initial and Continuing Calibrations

All initial and continuing calibration standards associated with the project samples met QC acceptance criteria.

E. Matrix Spike/Matrix Spike Duplicate

All QC criteria were met for the matrix spikes and matrix spike duplicates associated with the project samples, with the following exceptions:

1. The percent recoveries for cadmium, chromium, lead, nickel and zinc failed the 75%-125% acceptance criteria in QC samples 231SB102(3) (P404204-17) MS/MSD. In addition, the RPD between the MS/MSD results for the metals listed above and arsenic failed the 30% RPD project acceptance criterion. The results for chromium in the associated samples were qualified as estimated with a low bias (J-). The detected results for cadmium, lead, nickel and zinc in the associated samples were qualified as estimated with a high bias (J+). The detected results for arsenic in the associated samples were qualified as estimated (J) due to MS/MSD RPD failure. (QC batch 4040218)
2. The percent recoveries for chromium, lead and zinc failed the 75%-125% acceptance criteria in QC samples 231SB105(3) (P404235-12) MS/MSD. The results for lead and zinc in the associated samples were qualified as estimated with a low bias (J-). The detected results for chromium in the associated samples were qualified as estimated with a high bias (J+). (QC batch 4040321)

See Table 2 of this report for a summary of qualifications due to matrix spike percent recovery and RPD failures.

F. Laboratory Control Samples

All QC criteria were met for the laboratory control samples associated with the project samples.

G. Laboratory Duplicate Samples

All QC criteria were met for the laboratory duplicate samples associated with the project samples, with the following exception:

1. Sample results less than the laboratory reporting limits did not require qualification for failed relative percent differences between the duplicate results, and are not noted in this report.



H. ICP Interference Check Standards

All QC criteria were met for the ICP interference check standards associated with the project samples.

I. ICP Serial Dilution

All QC criteria were met for the ICP serial dilutions associated with the project samples, with the following exceptions:

1. The percent difference failed the 10% project acceptance criteria for lead in QC sample 228SB101(4.5) (P404234-23) at 12%. The results for lead in the associated samples were qualified as estimated (J/UJ) due to serial dilution percent difference failure. (QC Batch 4040288)
2. The percent difference failed the 10% project acceptance criteria for zinc in QC sample 231SB102(3) (P404204-17) at 16%. The results for zinc in the associated samples were qualified as estimated (J/UJ) due to serial dilution percent difference failure. (QC Batch 4040218)
3. The percent difference failed the 10% project acceptance criteria for nickel in QC sample 231SB105(3) (P404235-12) at 14%. The results for nickel in the associated samples were qualified as estimated (J/UJ) due to serial dilution percent difference failure. (QC Batch 4040321)

See Table 2 of this report for a summary of qualifications due to serial dilution percent difference failure.

J. Compound Identification and Quantitation

For the samples that received full data validation, no problems were observed with compound identification and quantitation. Samples 228SB101(16), 228SB102(16), 38SB103(12), DUP040604, 38SB103RB, 228SB101(4.5), 228SB101(11), 228SB102(7.5), 38SB103(1.5), 38SB103(5), 38SB103(7.5), 38SB102(1.0), 38SB102(3.5), 38SB102(5.5), 38SB102(10) and 38SB103(10), in laboratory sample delivery group P404234, received full (Level IV) data validation. This included re-calculation of the reported results for all metals in these samples. For the samples that received full data validation, all recalculated results were verified to match those reported by the laboratory.



**The following paragraphs highlight the essential findings of the field duplicate samples:**

Field duplicate precision was evaluated by calculating the relative percent difference (RPD) between detected results in the original sample and its associated duplicate. The control limit used for field duplicates was a relative percent difference less than or equal to 50 percent, or the absolute difference of the two results must be less than the reporting limit for those analytes that were at or near the detection limit. Three water samples were collected in duplicate for the Building 207/231 sampling event.

<b>Project Sample Primary ID</b>	<b>Lab Sample ID</b>	<b>Project Sample Duplicate ID</b>	<b>Lab Sample ID</b>
38SB103(12)	P404234-07	DUP040604	P404234-08
231SB104(12)	P404235-03	DUP040704-3	P404235-04
231SB115(16)	P404268-02	DUP040804	P404268-03

The attached Table 3 summarizes the field duplicate sample results. The detected results of the original sample and the associated duplicate sample were compared and the calculated RPDs reported.

All RPDs met the 50 percent (or +/- RL) precision control limit requirement, with the following exceptions:

1. In field duplicates 38SB103(12) (P404234-07) and DUP040604 (P404234-08), the RPD between the detected results failed the 50% acceptance criteria for benzo(b)fluoranthene at 159% and pyrene at 161%.
2. In field duplicates 231SB104(12) (P404235-03) and DUP040704-3 (P404235-04), the RPD between the detected results failed the 50% acceptance criteria for naphthalene at 176% and phenanthrene at 75%.

The analysis of field duplicate samples is a measure of both field and analytical precision. The imprecision in the results in the field duplicate pair listed above may be due to the sample matrix, sampling or laboratory technique, or method defects. Since the effect on the quality of the data is not known, data is not qualified for field duplicate failure.



**SUMMARY**

The attached Table 1 lists the project samples and the respective analyses that were included in the data validation effort. This table also designates which samples/analyses received Level IV data validation. The attached Table 2 summarizes the data qualifications required for the project samples for each test method included in the data packages. The attached Table 3 summarizes the field duplicate sample results.

**USABILITY**

The quality control criteria were reviewed, and other than those discussed above, all criteria were met and the data are considered acceptable. Rejected sample results (R) are not usable for any purpose. Estimated sample results (J/UJ) are usable only for limited purposes. Based upon the cursory and full data validation, all other results are considered valid and usable for all purposes.

**VALIDATION QUALIFIERS IDENTIFICATION**

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October, 1999.

- U      The analyte was analyzed for, but was not detected above the reported sample quantitation limit. *For this project, several detected results were changed to non-detect and assigned a 'U' qualifier for blank contamination.*
- J      The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample. *A minus sign (-) indicates the numerical value has a low bias. A plus sign (+) indicates the numerical value has a high bias.*
- N      The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ     The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ     The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R      The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.



Table E1  
Sample Summary  
Bldg 207/231 Site  
The Presidio of San Francisco

Site Sample ID	Lab Sample ID	Date Sampled	Analyses	Sample Type
231SB100(10)	P404204-01	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB101(10.5)	P404204-02	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB102(11)	P404204-03	5-Apr-04	VOCs (8260B), TPH-Diesel/FO (8015B)	Water
231SB103(10.5)	P404204-04	5-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
231SB108(14.5)	P404204-05	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB103(RB)	P404204-06	5-Apr-04	PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	EB
231SB116(10.5)	P404204-07	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
TB040504	P404204-08	5-Apr-04	VOCs (8260B), BTEX (8021B)	TB
231SB100(3)	P404204-09	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB100(5.5)	P404204-10	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB100(7.5)	P404204-11	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB100(9.5)	P404204-12	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB101(3)	P404204-13	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB101(5.5)	P404204-14	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB101(7.5)	P404204-15	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB101(10)	P404204-16	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB102(3)	P404204-17	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB102(5)	P404204-18	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB102(7)	P404204-19	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB102(10)	P404204-20	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB103(3)	P404204-21	5-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB103(5)	P404204-22	5-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB103(7)	P404204-23	5-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB103(10)	P404204-24	5-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB108(3)	P404204-25	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB108(5)	P404204-26	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB108(7)	P404204-27	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB108(10)	P404204-28	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB107(1)	P404204-29	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB109(3)	P404204-30	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB109(5)	P404204-31	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil



Table E1  
Sample Summary  
Bldg 207/231 Site  
The Presidio of San Francisco

Site Sample ID	Lab Sample ID	Date Sampled	Analyses	Sample Type
231SB109(7)	P404204-32	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB109(10)	P404204-33	5-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
230SB100(3)	P404204-34	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB100(5.5)	P404204-35	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB100(7.5)	P404204-36	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB100(10) (9.5)	P404204-37	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB101(3)	P404204-38	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB101(7.5)	P404204-39	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB101(10)	P404204-40	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
230SB101(5.5)	P404204-41	5-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Lead (6020)	Soil
231SB116(3)	P404204-42	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB116(5)	P404204-43	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB116(7)	P404204-44	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB116(10)	P404204-45	5-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB109(14.5)	P404234-01	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB112(10.5)	P404234-02	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB113(15)	P404234-03	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB111(16)	P404234-04	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
228SB101(16)	P404234-05	6-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
228SB102(16)	P404234-06	6-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
38SB103(12)	P404234-07	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water (1)
DUP040604	P404234-08	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	FD (1)
38SB103RB	P404234-09	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	EB
TB040604	P404234-10	6-Apr-04	Volatile Organic Compounds (8260B)	Water
231SB113(3)	P404234-11	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB113(5.5)	P404234-12	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB113(7.5)	P404234-13	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB113(10)	P404234-14	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB112(3)	P404234-15	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB112(5.5)	P404234-16	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB112(7.5)	P404234-17	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil



Table E1  
Sample Summary  
Bldg 207/231 Site  
The Presidio of San Francisco

Site Sample ID	Lab Sample ID	Date Sampled	Analyses	Sample Type
231SB112(10)	P404234-18	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB111(2.5)	P404234-19	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB111(5)	P404234-20	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB111(7)	P404234-21	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB111(10)	P404234-22	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
228SB101(4.5)	P404234-23	6-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
228SB101(11)	P404234-24	6-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
228SB102(7.5)	P404234-25	6-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB103(1.5)	P404234-26	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB103(5)	P404234-27	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB103(7.5)	P404234-28	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB102(1.0)	P404234-29	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB102(3.5)	P404234-30	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB102(5.5)	P404234-31	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
38SB102(10)	P404234-32	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB103(10)	P404234-33	6-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB102(12)	P404235-01	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
231SB105(12)	P404235-02	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Water
231SB104(12)	P404235-03	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Water (2)
DUP040704-3	P404235-04	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	FD (2)
207HP103(10)	P404235-05	7-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Water
207HP102(12)	P404235-06	7-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Water
38SB101(10.5)	P404235-07	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
38SB100(10.5)	P404235-08	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
38SB100RB	P404235-09	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	EB
TB040704	P404235-10	7-Apr-04	Volatile Organic Compounds (8260B)	TB
231SB114(16)	P404235-11	7-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB105(3)	P404235-12	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
231SB105(5.5)	P404235-13	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil



Table E1  
Sample Summary  
Bldg 207/231 Site  
The Presidio of San Francisco

Site Sample ID	Lab Sample ID	Date Sampled	Analyses	Sample Type
231SB105(7.0)	P404235-14	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
231SB105(10)	P404235-15	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
231SB104(3)	P404235-16	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
231SB104(5)	P404235-17	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
231SB104(7)	P404235-18	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
231SB104(10)	P404235-19	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), PCBs (8082), Lead, Nickel, Zinc (6020)	Soil
38SB101(3)	P404235-20	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB101(5.5)	P404235-22	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB101(10)	P404235-23	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB101(0.5)	P404235-25	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB100(1)	P404235-26	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB100(3)	P404235-27	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB100(5)	P404235-28	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
38SB100(10)	P404235-29	7-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), Metals (6020)	Soil
231SB114(3)	P404235-30	7-Apr-04	TPH-Gasoline (8015B), BTEX (8021B)	Soil
231SB114(5)	P404235-32	7-Apr-04	TPH-Gasoline (8015B), BTEX (8021B)	Soil
231SB114(7)	P404235-33	7-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB114(10)	P404235-34	7-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
208SB100(6)	P404235-35	7-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Metals (6020)	Soil
208SB100(7.5)	P404235-36	7-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Metals (6020)	Soil
208SB100(10)	P404235-37	7-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Metals (6020)	Soil
228SB100(4)	P404235-38	7-Apr-04	Polynuclear Aromatic Hydrocarbons (8270C)	Soil
208SB100(12)	P404268-01	8-Apr-04	PAHs (8270C), TPH-Diesel/FO (8015B), Metals (6020)	Water
231SB115(16)	P404268-02	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water (3)
DUP040804	P404268-03	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	FD (3)
231SB106(10.5)	P404268-04	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
207SB105(16)	P404268-05	8-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Water
271SB100(10.5)	P404268-06	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Water
207HP101(12)	P404268-07	8-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Water
Source Water BI	P404268-08	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B), PCBs (8082), Metals (6020)	FB



Table E1  
Sample Summary  
Bldg 207/231 Site  
The Presidio of San Francisco

Site Sample ID	Lab Sample ID	Date Sampled	Analyses	Sample Type
207SB104(12)	P404268-09	8-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Water
207HP100(12)	P404268-10	8-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Water
207HP100TB	P404268-11	8-Apr-04	Volatile Organic Compounds (8260B)	TB
231SB102(12)	P404268-12	8-Apr-04	TPH-Gasoline (8015B), Metals (6020)	Water
231SB110(12)	P404268-13	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Water
231SB115(3.0)	P404268-14	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB115(5.5)	P404268-15	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB115(7.5)	P404268-16	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB115(10)	P404268-17	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB106(3)	P404268-18	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB106(5)	P404268-19	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB106(7)	P404268-20	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB106(10)	P404268-21	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
207SB105(3.5)	P404268-22	8-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Soil
271SB100(2)	P404268-23	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
271SB100(3.5)	P404268-24	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
271SB100(5)	P404268-25	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
271SB100(7)	P404268-26	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
271SB100(9.5)	P404268-27	8-Apr-04	VOCs (8260B), PAHs (8270C), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Metals (6020)	Soil
231SB110(3)	P404268-28	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB110(5)	P404268-29	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB110(7)	P404268-30	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
231SB110(10)	P404268-31	8-Apr-04	TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), BTEX (8021B)	Soil
207SB104(3)	P404268-32	8-Apr-04	VOCs (8260B), TPH-Gasoline (8015B), TPH-Diesel/FO (8015B), Lead (6020)	Soil
38SB100(1)	P405251-01	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB100(3)	P405251-02	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB100(5.5)	P405251-03	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB100(10)	P405251-04	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB101(0.5)	P405251-05	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB101(3)	P405251-06	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB101(5.5)	P405251-07	12-May-04	TPH-Diesel/FO (8015B)	Soil



Table E1  
Sample Summary  
Bldg 207/231 Site  
The Presidio of San Francisco

Site Sample ID	Lab Sample ID	Date Sampled	Analyses	Sample Type
38SB101(10)	P405251-08	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB102(10)	P405251-09	12-May-04	TPH-Diesel/FO (8015B)	Soil
38SB103(10)	P405251-10	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB114(3)	P405251-11	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB114(5)	P405251-12	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB105(3)	P405251-13	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB105(5.5)	P405251-14	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB105(7)	P405251-15	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB105(11)	P405251-16	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB104(3)	P405251-17	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB104(5)	P405251-18	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB104(7)	P405251-19	12-May-04	TPH-Diesel/FO (8015B)	Soil
231SB104(11)	P405251-20	12-May-04	TPH-Diesel/FO (8015B)	Soil

**VOCs:** Volatile Organic Compounds

**PAHs:** Polynuclear Aromatic Hydrocarbons

**TPH:** Total Petroleum Hydrocarbons

**FO:** Fuel Oil

**BTEX:** Benzene, toluene, ethylbenzene, xylenes

**PCBs:** Polychlorinated Biphenyls

**Metals:** As, Cd, Cr, Pb, Ni, Zn

**FD:** Field duplicate of previous numbered sample, (1), (2), etc.

**EB:** Equipment Blank

**TB:** Trip Blank

**FB:** Field Blank

**BOLD:** Bold typeface indicates samples/analyses that received full (Level IV) data validation



Table E2  
Qualified Data Summary  
Building 207/231 Site  
The Presidio of San Francisco, CA

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB102(11)	P404204-03	8260B	Acetone	67-64-1	J-	Average and daily RRF less than 0.05
231SB102(11)	P404204-03	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
231SB103(10.5)	P404204-04	8260B	Acetone	67-64-1	R	Average and daily RRF less than 0.05
231SB103(10.5)	P404204-04	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
231SB116(10.5)	P404204-07	8260B	Acetone	67-64-1	J-	Average RRF less than 0.05
231SB116(10.5)	P404204-07	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
TB040504	P404204-08	8260B	Acetone	67-64-1	R	Average and daily RRF less than 0.05
TB040504	P404204-08	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
231SB102(3)	P404204-17	8260B	Methylene chloride	75-09-2	U	Blank contamination
231SB102(3)	P404204-17	8260B	Toluene	108-88-3	U	Blank contamination
231SB102(5)	P404204-18	8260B	2-Butanone	78-93-3	J+	Surrogate percent recovery failure
231SB102(5)	P404204-18	8260B	Acetone	67-64-1	J+	Surrogate percent recovery failure
231SB102(5)	P404204-18	8260B	Toluene	108-88-3	U	Blank contamination
231SB102(7)	P404204-19	8260B	Methylene chloride	75-09-2	U	Blank contamination
231SB102(7)	P404204-19	8260B	Toluene	108-88-3	U	Blank contamination
231SB102(10)	P404204-20	8260B	Methylene chloride	75-09-2	U	Blank contamination
231SB102(10)	P404204-20	8260B	Toluene	108-88-3	U	Blank contamination
231SB103(3)	P404204-21	8260B	Toluene	108-88-3	U	Blank contamination
231SB103(5)	P404204-22	8260B	Toluene	108-88-3	U	Blank contamination
231SB103(7)	P404204-23	8260B	Toluene	108-88-3	U	Blank contamination
231SB103(10)	P404204-24	8260B	Methylene chloride	75-09-2	U	Blank contamination
231SB103(10)	P404204-24	8260B	Toluene	108-88-3	U	Blank contamination
231SB116(3)	P404204-42	8260B	Toluene	108-88-3	U	Blank contamination
231SB116(5)	P404204-43	8260B	Toluene	108-88-3	U	Blank contamination
231SB116(7)	P404204-44	8260B	Toluene	108-88-3	U	Blank contamination
228SB101(4.5)	P404234-23	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
228SB102(7.5)	P404234-25	8260B	2-Chloroethyl vinyl ether	110-75-8	R	Average and daily RRF less than 0.05
228SB102(7.5)	P404234-25	8260B	Bromomethane	74-83-9	UJ	CCV %D failure
228SB102(7.5)	P404234-25	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB103(1.5)	P404234-26	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB103(5)	P404234-27	8260B	Acetone	67-64-1	U	Blank contamination
38SB103(5)	P404234-27	8260B	Toluene	108-88-3	U	Blank contamination
38SB103(5)	P404234-27	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB103(7.5)	P404234-28	8260B	Acetone	67-64-1	U	Blank contamination
38SB103(7.5)	P404234-28	8260B	Toluene	108-88-3	U	Blank contamination
38SB103(7.5)	P404234-28	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB102(1.0)	P404234-29	8260B	2-Butanone	78-93-3	J+	Surrogate percent recovery failure



Table E2  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
38SB102(1.0)	P404234-29	8260B	Acetone	67-64-1	U	Blank contamination
38SB102(1.0)	P404234-29	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB102(3.5)	P404234-30	8260B	Acetone	67-64-1	U	Blank contamination
38SB102(3.5)	P404234-30	8260B	Toluene	108-88-3	U	Blank contamination
38SB102(3.5)	P404234-30	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB102(5.5)	P404234-31	8260B	2-Butanone	78-93-3	J+	Surrogate percent recovery failure
38SB102(5.5)	P404234-31	8260B	Acetone	67-64-1	U	Blank contamination
38SB102(5.5)	P404234-31	8260B	Methylene chloride	75-09-2	J+	Surrogate percent recovery failure
38SB102(5.5)	P404234-31	8260B	Toluene	108-88-3	U	Blank contamination
38SB102(5.5)	P404234-31	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB102(10)	P404234-32	8260B	Acetone	67-64-1	U	Blank contamination
38SB102(10)	P404234-32	8260B	Toluene	108-88-3	U	Blank contamination
38SB102(10)	P404234-32	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB103(10)	P404234-33	8260B	Acetone	67-64-1	U	Blank contamination
38SB103(10)	P404234-33	8260B	Toluene	108-88-3	U	Blank contamination
38SB103(10)	P404234-33	8260B	Carbon disulfide	75-15-0	J-	CCV %D failure
38SB102(12)	P404235-01	8260B	Acetone	67-64-1	J-	Average RRF less than 0.05
38SB102(12)	P404235-01	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
231SB105(12)	P404235-02	8260B	Acetone	67-64-1	J-	Average RRF less than 0.05
231SB105(12)	P404235-02	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
231SB104(12)	P404235-03	8260B	Acetone	67-64-1	J-	Average RRF less than 0.05
231SB104(12)	P404235-03	8260B	Vinyl acetate	108-05-4	R	Average RRF less than 0.05
231SB104(12)	P404235-03	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
DUP040704-3	P404235-04	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207HP103(10)	P404235-05	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207HP102(12)	P404235-06	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB101(10.5)	P404235-07	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB100(10.5)	P404235-08	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB100RB	P404235-09	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
TB040704	P404235-10	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB105(3)	P404235-12	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB105(5.5)	P404235-13	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB105(5.5)	P404235-13	8260B	Acetone	67-64-1	J+	Surrogate percent recovery failure
231SB105(5.5)	P404235-13	8260B	m,p-Xylene	S-MPXLYL	J+	Surrogate percent recovery failure
231SB105(5.5)	P404235-13	8260B	Toluene	108-88-3	J+	Surrogate percent recovery failure
231SB105(7.0)	P404235-14	8260B	Acetone	67-64-1	J+	Surrogate percent recovery failure
231SB105(7.0)	P404235-14	8260B	m,p-Xylene	S-MPXLYL	J+	Surrogate percent recovery failure
231SB105(7.0)	P404235-14	8260B	o-Xylene	95-47-6	J+	Surrogate percent recovery failure
231SB105(7.0)	P404235-14	8260B	Toluene	108-88-3	J+	Surrogate percent recovery failure



**Table E2**  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB105(7.0)	P404235-14	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB105(10)	P404235-15	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB104(3)	P404235-16	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB104(5)	P404235-17	8260B	Acetone	67-64-1	J+	Surrogate percent recovery failure
231SB104(5)	P404235-17	8260B	Benzene	71-43-2	J+	Surrogate percent recovery failure
231SB104(5)	P404235-17	8260B	Ethylbenzene	100-41-4	J+	Surrogate percent recovery failure
231SB104(5)	P404235-17	8260B	m,p-Xylene	S-MPXYL	J+	Surrogate percent recovery failure
231SB104(5)	P404235-17	8260B	o-Xylene	95-47-6	J+	Surrogate percent recovery failure
231SB104(5)	P404235-17	8260B	Toluene	108-88-3	J+	Surrogate percent recovery failure
231SB104(5)	P404235-17	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB104(7)	P404235-18	8260B	Acetone	67-64-1	U	Blank contamination
231SB104(7)	P404235-18	8260B	Toluene	108-88-3	U	Blank contamination
231SB104(7)	P404235-18	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB104(10)	P404235-19	8260B	Acetone	67-64-1	U	Blank contamination
231SB104(10)	P404235-19	8260B	Toluene	108-88-3	U	Blank contamination
231SB104(10)	P404235-19	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB101(3)	P404235-20	8260B	Toluene	108-88-3	U	Blank contamination
38SB101(3)	P404235-20	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB101(5.5)	P404235-22	8260B	Acetone	67-64-1	U	Blank contamination
38SB101(5.5)	P404235-22	8260B	Toluene	108-88-3	U	Blank contamination
38SB101(5.5)	P404235-22	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB101(10)	P404235-23	8260B	Acetone	67-64-1	U	Blank contamination
38SB101(10)	P404235-23	8260B	Toluene	108-88-3	U	Blank contamination
38SB101(10)	P404235-23	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB101(0.5)	P404235-25	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB100(1)	P404235-26	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB100(3)	P404235-27	8260B	Toluene	108-88-3	U	Blank contamination
38SB100(3)	P404235-27	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB100(5)	P404235-28	8260B	Toluene	108-88-3	U	Blank contamination
38SB100(5)	P404235-28	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
38SB100(10)	P404235-29	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207SB105(16)	P404268-05	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
271SB100(10.5)	P404268-06	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207HP101(12)	P404268-07	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
Source Water Blank	P404268-08	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207SB104(12)	P404268-09	8260B	Acetone	67-64-1	U	Blank contamination
207SB104(12)	P404268-09	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207HP100(12)	P404268-10	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207HP100TB	P404268-11	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure



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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
207SB105(3.5)	P404268-22	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
271SB100(2)	P404268-23	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
271SB100(3.5)	P404268-24	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
271SB100(5)	P404268-25	8260B	Toluene	108-88-3	U	Blank contamination
271SB100(5)	P404268-25	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
271SB100(7)	P404268-26	8260B	Toluene	108-88-3	U	Blank contamination
271SB100(7)	P404268-26	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
271SB100(9.5)	P404268-27	8260B	Toluene	108-88-3	U	Blank contamination
271SB100(9.5)	P404268-27	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
207SB104(3)	P404268-32	8260B	Toluene	108-88-3	U	Blank contamination
207SB104(3)	P404268-32	8260B	Carbon disulfide	75-15-0	UJ	CCV %D failure
231SB103(10.5)	P404204-04	8270C	Pyrene	129-00-0	J-	MS/MSD percent recovery failure
231SB103(7)	P404204-23	8270C	Acenaphthene	83-32-9	UJ	MS/MSD RPD failure
DUP040604	P404234-08	8270C	Acenaphthene	83-32-9	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Acenaphthylene	208-96-8	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Anthracene	120-12-7	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Benzo(a)anthracene	56-55-3	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Benzo(a)pyrene	50-32-8	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Benzo(b)fluoranthene	205-99-2	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Benzo(b+k)fluoranthene	S-TOTFE	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Benzo(g,h,i)perylene	191-24-2	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Benzo(k)fluoranthene	207-08-9	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Chrysene	218-01-9	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Dibenz(a,h)anthracene	53-70-3	UJ	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Fluoranthene	206-44-0	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Fluorene	86-73-7	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Naphthalene	91-20-3	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Phenanthrene	85-01-8	J-	Surrogate percent recovery failure
DUP040604	P404234-08	8270C	Pyrene	129-00-0	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Acenaphthene	83-32-9	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Acenaphthylene	208-96-8	UJ	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Anthracene	120-12-7	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Benzo(a)anthracene	56-55-3	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Benzo(a)pyrene	50-32-8	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Benzo(b)fluoranthene	205-99-2	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Benzo(b+k)fluoranthene	S-TOTFE	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Benzo(g,h,i)perylene	191-24-2	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Benzo(k)fluoranthene	207-08-9	UJ	Surrogate percent recovery failure



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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
DUP040704-3	P404235-04	8270C	Chrysene	218-01-9	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Dibenz(a,h)anthracene	53-70-3	UJ	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Fluoranthene	206-44-0	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Fluorene	86-73-7	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	UJ	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Naphthalene	91-20-3	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Phenanthrene	85-01-8	J-	Surrogate percent recovery failure
DUP040704-3	P404235-04	8270C	Pyrene	129-00-0	J-	Surrogate percent recovery failure
38SB100(1)	P404235-26	8270C	Benzo(b+k)fluoranthene	S-TOTFE	J	IS area count failure
38SB100(1)	P404235-26	8270C	Benzo(b)fluoranthene	205-99-2	J	IS area count failure
38SB100(1)	P404235-26	8270C	Benzo(k)fluoranthene	207-08-9	J	IS area count failure
38SB100(1)	P404235-26	8270C	Benzo(a)pyrene	50-32-8	J	IS area count failure
38SB100(1)	P404235-26	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	J	IS area count failure
38SB100(1)	P404235-26	8270C	Dibenz(a,h)anthracene	53-70-3	J	IS area count failure
38SB100(1)	P404235-26	8270C	Benzo(g,h,i)perylene	191-24-2	J	IS area count failure
38SB100(3)	P404235-27	8270C	Benzo(b+k)fluoranthene	S-TOTFE	J	IS area count failure
38SB100(3)	P404235-27	8270C	Benzo(b)fluoranthene	205-99-2	J	IS area count failure
38SB100(3)	P404235-27	8270C	Benzo(k)fluoranthene	207-08-9	J	IS area count failure
38SB100(3)	P404235-27	8270C	Benzo(a)pyrene	50-32-8	J	IS area count failure
38SB100(3)	P404235-27	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	J	IS area count failure
38SB100(3)	P404235-27	8270C	Dibenz(a,h)anthracene	53-70-3	UJ	IS area count failure
38SB100(3)	P404235-27	8270C	Benzo(g,h,i)perylene	191-24-2	J	IS area count failure
38SB100(5)	P404235-28	8270C	Benzo(b+k)fluoranthene	S-TOTFE	J	IS area count failure
38SB100(5)	P404235-28	8270C	Benzo(b)fluoranthene	205-99-2	J	IS area count failure
38SB100(5)	P404235-28	8270C	Benzo(k)fluoranthene	207-08-9	UJ	IS area count failure
38SB100(5)	P404235-28	8270C	Benzo(a)pyrene	50-32-8	J	IS area count failure
38SB100(5)	P404235-28	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	UJ	IS area count failure
38SB100(5)	P404235-28	8270C	Dibenz(a,h)anthracene	53-70-3	UJ	IS area count failure
38SB100(5)	P404235-28	8270C	Benzo(g,h,i)perylene	191-24-2	UJ	IS area count failure
208SB100(12)	P404268-01	8270C	Naphthalene	91-20-3	U	Blank contamination
271SB100(10.5)	P404268-06	8270C	Naphthalene	91-20-3	U	Blank contamination
271SB100(7)	P404268-26	8270C	Acenaphthene	83-32-9	R	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Acenaphthylene	208-96-8	R	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Anthracene	120-12-7	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Benzo(a)anthracene	56-55-3	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Benzo(a)pyrene	50-32-8	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Benzo(b)fluoranthene	205-99-2	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Benzo(b+k)fluoranthene	S-TOTFE	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Benzo(g,h,i)perylene	191-24-2	UJ	Surrogate percent recovery failure



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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
271SB100(7)	P404268-26	8270C	Benzo(k)fluoranthene	207-08-9	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Chrysene	218-01-9	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Dibenz(a,h)anthracene	53-70-3	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Fluoranthene	206-44-0	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Fluorene	86-73-7	R	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Naphthalene	91-20-3	R	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Phenanthrene	85-01-8	UJ	Surrogate percent recovery failure
271SB100(7)	P404268-26	8270C	Pyrene	129-00-0	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Acenaphthene	83-32-9	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Acenaphthylene	208-96-8	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Anthracene	120-12-7	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Benzo(a)anthracene	56-55-3	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Benzo(a)pyrene	50-32-8	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Benzo(b)fluoranthene	205-99-2	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Benzo(b+k)fluoranthene	S-TOTFE	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Benzo(g,h,i)perylene	191-24-2	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Benzo(k)fluoranthene	207-08-9	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Chrysene	218-01-9	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Dibenz(a,h)anthracene	53-70-3	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Fluoranthene	206-44-0	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Fluorene	86-73-7	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Indeno(1,2,3-cd)pyrene	193-39-5	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Naphthalene	91-20-3	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Phenanthrene	85-01-8	UJ	Surrogate percent recovery failure
271SB100(9.5)	P404268-27	8270C	Pyrene	129-00-0	UJ	Surrogate percent recovery failure
231SB101(10.5)	P404204-02	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(10.5)	P404204-04	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(RB)	P404204-06	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB116(10.5)	P404204-07	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB100(3)	P404204-09	8015G	TPH-Gasoline	8006-61-9	UJ	Blank contamination, MS/MSD %R failure, MS/MSD RPD failure
231SB100(7.5)	P404204-11	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB100(9.5)	P404204-12	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB101(5.5)	P404204-14	8015G	TPH-Gasoline	8006-61-9	UJ	Blank contamination, Surrogate %R failure
231SB101(5.5)	P404204-14	8015G	Unknown Fuel HCs	S-UNKF	UJ	Surrogate percent recovery failure
231SB101(7.5)	P404204-15	8015G	TPH-Gasoline	8006-61-9	UJ	Blank contamination, Surrogate %R failure
231SB101(7.5)	P404204-15	8015G	Unknown Fuel HCs	S-UNKF	UJ	Surrogate percent recovery failure
231SB102(3)	P404204-17	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB102(5)	P404204-18	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination



Table E2  
Qualified Data Summary  
Building 207/231 Site  
The Presidio of San Francisco, CA

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB102(7)	P404204-19	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB102(10)	P404204-20	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(3)	P404204-21	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(5)	P404204-22	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(7)	P404204-23	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(10)	P404204-24	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB107(1)	P404204-29	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB109(7)	P404204-32	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB116(3)	P404204-42	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB116(5)	P404204-43	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB116(7)	P404204-44	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB116(10)	P404204-45	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB109(14.5)	P404234-01	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB112(10.5)	P404234-02	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB113(15)	P404234-03	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB111(16)	P404234-04	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB103(12)	P404234-07	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
DUP040604	P404234-08	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB103RB	P404234-09	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB113(3)	P404234-11	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB113(5.5)	P404234-12	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB113(7.5)	P404234-13	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB113(10)	P404234-14	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB112(3)	P404234-15	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB112(5.5)	P404234-16	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB112(7.5)	P404234-17	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB111(2.5)	P404234-19	8015G	TPH-Gasoline	8006-61-9	J-	Matrix spike/matrix spike duplicate percent recovery failure
228SB101(4.5)	P404234-23	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB103(1.5)	P404234-26	8015G	TPH-Gasoline	8006-61-9	UJ	Blank contamination, MS/MSD percent recovery failure
38SB103(5)	P404234-27	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB103(7.5)	P404234-28	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB102(1.0)	P404234-29	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB102(5.5)	P404234-31	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB102(10)	P404234-32	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB102(12)	P404235-01	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
207HP103(10)	P404235-05	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
207HP102(12)	P404235-06	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB101(10.5)	P404235-07	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB100(10.5)	P404235-08	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination



**Table E2**  
**Qualified Data Summary**  
**Building 207/231 Site**  
**The Presidio of San Francisco, CA**

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
38SB100RB	P404235-09	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB105(10)	P404235-15	8015G	TPH-Gasoline	8006-61-9	UJ	Surrogate percent recovery failure
231SB105(10)	P404235-15	8015G	Unknown Fuel HCs	S-UNKF	J-	Surrogate percent recovery failure
231SB104(7)	P404235-18	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB104(10)	P404235-19	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB101(5.5)	P404235-22	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB101(10)	P404235-23	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB101(0.5)	P404235-25	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
38SB100(10)	P404235-29	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB114(3)	P404235-30	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB114(5)	P404235-32	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB114(10)	P404235-34	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB115(16)	P404268-02	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
DUP040804	P404268-03	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB106(10.5)	P404268-04	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
271SB100(10.5)	P404268-06	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
207HP101(12)	P404268-07	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
Source Water BI	P404268-08	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
207SB104(12)	P404268-09	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
207HP100(12)	P404268-10	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB102(12)	P404268-12	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB115(3.0)	P404268-14	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB115(10)	P404268-17	8015G	TPH-Gasoline	8006-61-9	J-	Surrogate %R failure, MS/MSD %R failure
231SB115(10)	P404268-17	8015G	Unknown Fuel HCs	S-UNKF	UJ	Surrogate percent recovery failure
231SB106(3)	P404268-18	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB106(5)	P404268-19	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB106(10)	P404268-21	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
271SB100(2)	P404268-23	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
271SB100(3.5)	P404268-24	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
271SB100(7)	P404268-26	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
271SB100(9.5)	P404268-27	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB110(3)	P404268-28	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB110(10)	P404268-31	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
207SB104(3)	P404268-32	8015G	TPH-Gasoline	8006-61-9	U	Blank contamination
231SB103(RB)	P404204-06	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB100(3)	P404204-09	8015D	TPH-Diesel	68334-30-5	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB100(7.5)	P404204-11	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB100(9.5)	P404204-12	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB101(3)	P404204-13	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination



**Table E2**  
**Qualified Data Summary**  
**Building 207/231 Site**  
**The Presidio of San Francisco, CA**

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB101(7.5)	P404204-15	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB101(10)	P404204-16	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB102(10)	P404204-20	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
231SB102(10)	P404204-20	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB103(10)	P404204-24	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB108(10)	P404204-28	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB109(7)	P404204-32	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB109(10)	P404204-33	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
230SB101(7.5)	P404204-39	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB111(16)	P404234-04	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
38SB103RB	P404234-09	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB113(7.5)	P404234-13	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB112(3)	P404234-15	8015D	TPH-Fuel Oil	S-FOC24C36	J+	Surrogate percent recovery failure
231SB112(3)	P404234-15	8015D	Unknown Fuel HCs	S-UNKFC12C24	J+	Surrogate percent recovery failure
231SB112(7.5)	P404234-17	8015D	TPH-Fuel Oil	S-FOC24C36	J+	Surrogate percent recovery failure
231SB112(7.5)	P404234-17	8015D	Unknown Fuel HCs	S-UNKFC12C24	J+	Surrogate percent recovery failure
231SB111(2.5)	P404234-19	8015D	TPH-Diesel	68334-30-5	J-	Matrix spike/matrix spike duplicate percent recovery failure
228SB101(4.5)	P404234-23	8015D	TPH-Diesel	68334-30-5	U	Blank contamination
228SB101(4.5)	P404234-23	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
38SB103(1.5)	P404234-26RE1	8015D	TPH-Diesel	68334-30-5	J	Missed analysis holding time, MS/MSD RPD failure
38SB103(1.5)	P404234-26RE1	8015D	TPH-Fuel Oil	S-FOC24C36	J	Missed analysis holding time
38SB103(1.5)	P404234-26RE1	8015D	Unknown Fuel HCs	S-UNKFC12C24	J	Missed analysis holding time
38SB103(5)	P404234-27RE1	8015D	TPH-Diesel	68334-30-5	UJ	Missed analysis holding time
38SB103(5)	P404234-27RE1	8015D	TPH-Fuel Oil	S-FOC24C36	J	Missed analysis holding time
38SB103(5)	P404234-27RE1	8015D	Unknown Fuel HCs	S-UNKFC12C24	J	Missed analysis holding time
38SB103(7.5)	P404234-28	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB105(12)	P404235-02	8015D	TPH-Diesel	68334-30-5	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(10.5)	P404235-08	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB114(7)	P404235-33	8015D	TPH-Diesel	68334-30-5	U	Blank contamination
231SB114(7)	P404235-33	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
231SB114(7)	P404235-33	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB114(10)	P404235-34	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
208SB100(10)	P404235-37	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB115(16)	P404268-02	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
DUP040804	P404268-03	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB106(10.5)	P404268-04	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
271SB100(10.5)	P404268-06	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
Source Water BI	P404268-08	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
207SB104(12)	P404268-09	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination



**Table E2**  
**Qualified Data Summary**  
**Building 207/231 Site**  
**The Presidio of San Francisco, CA**

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB110(12)	P404268-13	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB115(7.5)	P404268-16	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB106(7)	P404268-20	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
271SB100(3.5)	P404268-24	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
271SB100(3.5)	P404268-24	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
271SB100(7)	P404268-26	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
271SB100(7)	P404268-26	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
271SB100(9.5)	P404268-27	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
271SB100(9.5)	P404268-27	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB110(3)	P404268-28	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
231SB110(3)	P404268-28	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB110(5)	P404268-29	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
231SB110(5)	P404268-29	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB110(7)	P404268-30	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
231SB110(7)	P404268-30	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB110(10)	P404268-31	8015D	TPH-Fuel Oil	S-FOC24C36	U	Blank contamination
231SB110(10)	P404268-31	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
207SB104(3)	P404268-32	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
38SB100(3)	P405251-02	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
38SB101(5.5)	P405251-07	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB104(7)	P405251-19	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB104(11)	P405251-20	8015D	Unknown Fuel HCs	S-UNKFC12C24	U	Blank contamination
231SB100(3)	P404204-09	8021B	Benzene	71-43-2	UJ	MS/MSD %R failure, MS/MSD RPD failure
231SB100(3)	P404204-09	8021B	Ethylbenzene	100-41-4	UJ	Blank contamination, MS/MSD %R failure, MS/MSD RPD failure
231SB100(3)	P404204-09	8021B	Toluene	108-88-3	UJ	Blank contamination, MS/MSD %R failure, MS/MSD RPD failure
231SB100(3)	P404204-09	8021B	Xylenes	1330-20-7	UJ	Blank contamination, MS/MSD %R failure, MS/MSD RPD failure
231SB100(5.5)	P404204-10	8021B	Toluene	108-88-3	U	Blank contamination
231SB100(5.5)	P404204-10	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB100(7.5)	P404204-11	8021B	Toluene	108-88-3	U	Blank contamination
231SB100(9.5)	P404204-12	8021B	Toluene	108-88-3	U	Blank contamination
231SB100(9.5)	P404204-12	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB101(7.5)	P404204-15	8021B	Benzene	71-43-2	UJ	Surrogate percent recovery failure
231SB101(7.5)	P404204-15	8021B	Ethylbenzene	100-41-4	UJ	Surrogate percent recovery failure
231SB101(7.5)	P404204-15	8021B	Toluene	108-88-3	UJ	Surrogate percent recovery failure
231SB101(7.5)	P404204-15	8021B	Xylenes	1330-20-7	UJ	Surrogate percent recovery failure
231SB108(3)	P404204-25	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB108(3)	P404204-25	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB108(5)	P404204-26	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB108(5)	P404204-26	8021B	Xylenes	1330-20-7	U	Blank contamination



**Table E2**  
**Qualified Data Summary**  
**Building 207/231 Site**  
**The Presidio of San Francisco, CA**

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB107(1)	P404204-29	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB107(1)	P404204-29	8021B	Toluene	108-88-3	U	Blank contamination
231SB107(1)	P404204-29	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB109(5)	P404204-31	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB109(5)	P404204-31	8021B	Toluene	108-88-3	U	Blank contamination
231SB109(5)	P404204-31	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB109(7)	P404204-32	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB109(7)	P404204-32	8021B	Toluene	108-88-3	U	Blank contamination
231SB109(7)	P404204-32	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB109(10)	P404204-33	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB109(10)	P404204-33	8021B	Toluene	108-88-3	U	Blank contamination
231SB109(10)	P404204-33	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB111(16)	P404234-04	8021B	Benzene	71-43-2	U	Blank contamination
231SB113(5.5)	P404234-12	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB113(5.5)	P404234-12	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB113(7.5)	P404234-13	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB113(7.5)	P404234-13	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB113(10)	P404234-14	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB112(3)	P404234-15	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB112(3)	P404234-15	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB112(5.5)	P404234-16	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB112(5.5)	P404234-16	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB112(7.5)	P404234-17	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB112(7.5)	P404234-17	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB112(10)	P404234-18	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB112(10)	P404234-18	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB111(2.5)	P404234-19	8021B	Benzene	71-43-2	UJ	MS/MSD %R failure, MS/MSD RPD failure
231SB111(2.5)	P404234-19	8021B	Ethylbenzene	100-41-4	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB111(2.5)	P404234-19	8021B	Toluene	108-88-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB111(2.5)	P404234-19	8021B	Xylenes	1330-20-7	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB111(10)	P404234-22	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB111(10)	P404234-22	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB114(5)	P404235-32	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB114(7)	P404235-33	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB114(10)	P404235-34	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB115(3.0)	P404268-14	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB115(5.5)	P404268-15	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB106(7)	P404268-20	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB106(10)	P404268-21	8021B	Xylenes	1330-20-7	U	Blank contamination



Table E2  
Qualified Data Summary  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB110(3)	P404268-28	8021B	Toluene	108-88-3	U	Blank contamination
231SB110(5)	P404268-29	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB110(5)	P404268-29	8021B	Toluene	108-88-3	U	Blank contamination
231SB110(5)	P404268-29	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB110(7)	P404268-30	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB110(7)	P404268-30	8021B	Toluene	108-88-3	U	Blank contamination
231SB110(7)	P404268-30	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB110(10)	P404268-31	8021B	Ethylbenzene	100-41-4	U	Blank contamination
231SB110(10)	P404268-31	8021B	Toluene	108-88-3	U	Blank contamination
231SB110(10)	P404268-31	8021B	Xylenes	1330-20-7	U	Blank contamination
231SB105(12)	P404235-02	8082	PCB-1016	12674-11-2	UJ	Missed analysis holding time
231SB105(12)	P404235-02	8082	PCB-1221	11104-28-2	UJ	Missed analysis holding time
231SB105(12)	P404235-02	8082	PCB-1232	11141-16-5	UJ	Missed analysis holding time
231SB105(12)	P404235-02	8082	PCB-1242	53469-21-9	UJ	Missed analysis holding time
231SB105(12)	P404235-02	8082	PCB-1248	12672-29-6	UJ	Missed analysis HT, Surrogate %R failure
231SB105(12)	P404235-02	8082	PCB-1254	11097-69-1	UJ	Missed analysis HT, Surrogate %R failure
231SB105(12)	P404235-02	8082	PCB-1260	11096-82-5	UJ	Missed analysis HT, Surrogate %R failure, MS/MSD %R failure
231SB104(12)	P404235-03	8082	PCB-1016	12674-11-2	UJ	Missed analysis holding time
231SB104(12)	P404235-03	8082	PCB-1221	11104-28-2	UJ	Missed analysis holding time
231SB104(12)	P404235-03	8082	PCB-1232	11141-16-5	UJ	Missed analysis holding time
231SB104(12)	P404235-03	8082	PCB-1242	53469-21-9	UJ	Missed analysis holding time
231SB104(12)	P404235-03	8082	PCB-1248	12672-29-6	UJ	Missed analysis holding time
231SB104(12)	P404235-03	8082	PCB-1254	11097-69-1	UJ	Missed analysis holding time
231SB104(12)	P404235-03	8082	PCB-1260	11096-82-5	UJ	Missed analysis holding time
DUP040704-3	P404235-04	8082	PCB-1016	12674-11-2	UJ	Missed analysis holding time
DUP040704-3	P404235-04	8082	PCB-1221	11104-28-2	UJ	Missed analysis holding time
DUP040704-3	P404235-04	8082	PCB-1232	11141-16-5	UJ	Missed analysis holding time
DUP040704-3	P404235-04	8082	PCB-1242	53469-21-9	UJ	Missed analysis holding time
DUP040704-3	P404235-04	8082	PCB-1248	12672-29-6	UJ	Missed analysis HT, Surrogate %R failure
DUP040704-3	P404235-04	8082	PCB-1254	11097-69-1	UJ	Missed analysis HT, Surrogate %R failure
DUP040704-3	P404235-04	8082	PCB-1260	11096-82-5	UJ	Missed analysis HT, Surrogate %R failure
231SB105(10)	P404235-15RE1	8082	PCB-1016	12674-11-2	UJ	Surrogate percent recovery failure
231SB105(10)	P404235-15RE1	8082	PCB-1221	11104-28-2	UJ	Surrogate percent recovery failure
231SB105(10)	P404235-15RE1	8082	PCB-1232	11141-16-5	UJ	Surrogate percent recovery failure
231SB105(10)	P404235-15RE1	8082	PCB-1242	53469-21-9	UJ	Surrogate percent recovery failure
231SB104(7)	P404235-18	8082	PCB-1016	12674-11-2	UJ	Surrogate percent recovery failure
231SB104(7)	P404235-18	8082	PCB-1221	11104-28-2	UJ	Surrogate percent recovery failure
231SB104(7)	P404235-18	8082	PCB-1232	11141-16-5	UJ	Surrogate percent recovery failure
231SB104(7)	P404235-18	8082	PCB-1242	53469-21-9	UJ	Surrogate percent recovery failure



**Table E2**  
**Qualified Data Summary**  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB104(7)	P404235-18	8082	PCB-1248	12672-29-6	UJ	Surrogate percent recovery failure
231SB104(7)	P404235-18	8082	PCB-1254	11097-69-1	UJ	Surrogate percent recovery failure
231SB104(7)	P404235-18	8082	PCB-1260	11096-82-5	UJ	Surrogate percent recovery failure
231SB104(10)	P404235-19RE1	8082	PCB-1016	12674-11-2	UJ	Surrogate percent recovery failure
231SB104(10)	P404235-19RE1	8082	PCB-1221	11104-28-2	UJ	Surrogate percent recovery failure
231SB104(10)	P404235-19RE1	8082	PCB-1232	11141-16-5	UJ	Surrogate percent recovery failure
231SB104(10)	P404235-19RE1	8082	PCB-1242	53469-21-9	UJ	Surrogate percent recovery failure
Source Water BI	P404268-08	8082	PCB-1016	12674-11-2	UJ	Missed analysis holding time
Source Water BI	P404268-08	8082	PCB-1221	11104-28-2	UJ	Missed analysis holding time
Source Water BI	P404268-08	8082	PCB-1232	11141-16-5	UJ	Missed analysis holding time
Source Water BI	P404268-08	8082	PCB-1242	53469-21-9	UJ	Missed analysis holding time
Source Water BI	P404268-08	8082	PCB-1248	12672-29-6	UJ	Missed analysis holding time
Source Water BI	P404268-08	8082	PCB-1254	11097-69-1	UJ	Missed analysis holding time
Source Water BI	P404268-08	8082	PCB-1260	11096-82-5	UJ	Missed analysis holding time
231SB103(10.5)	P404204-04	6020	Arsenic	7440-38-2	U	Blank contamination
231SB103(10.5)	P404204-04	6020	Chromium	7440-47-3	U	Blank contamination
231SB103(10.5)	P404204-04	6020	Zinc	7440-66-6	U	Blank contamination
231SB103(RB)	P404204-06	6020	Zinc	7440-66-6	U	Blank contamination
231SB116(10.5)	P404204-07	6020	Arsenic	7440-38-2	U	Blank contamination
231SB116(10.5)	P404204-07	6020	Chromium	7440-47-3	U	Blank contamination
231SB116(10.5)	P404204-07	6020	Zinc	7440-66-6	U	Blank contamination
231SB102(3)	P404204-17	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB102(3)	P404204-17	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(3)	P404204-17	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB102(3)	P404204-17	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(3)	P404204-17	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(3)	P404204-17	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB102(5)	P404204-18	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB102(5)	P404204-18	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(5)	P404204-18	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB102(5)	P404204-18	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(5)	P404204-18	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(5)	P404204-18	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB102(7)	P404204-19	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB102(7)	P404204-19	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(7)	P404204-19	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB102(7)	P404204-19	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(7)	P404204-19	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(7)	P404204-19	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure



**Table E2**  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB102(10)	P404204-20	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB102(10)	P404204-20	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(10)	P404204-20	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB102(10)	P404204-20	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(10)	P404204-20	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB102(10)	P404204-20	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB103(3)	P404204-21	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB103(3)	P404204-21	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(3)	P404204-21	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB103(3)	P404204-21	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(3)	P404204-21	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(3)	P404204-21	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB103(5)	P404204-22	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB103(5)	P404204-22	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(5)	P404204-22	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB103(5)	P404204-22	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(5)	P404204-22	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(5)	P404204-22	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB103(7)	P404204-23	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB103(7)	P404204-23	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(7)	P404204-23	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB103(7)	P404204-23	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(7)	P404204-23	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(7)	P404204-23	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB103(10)	P404204-24	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB103(10)	P404204-24	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(10)	P404204-24	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB103(10)	P404204-24	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(10)	P404204-24	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB103(10)	P404204-24	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
230SB100(3)	P404204-34	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB100(5.5)	P404204-35	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB100(7.5)	P404204-36	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB100(10)	P404204-37	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB101(3)	P404204-38	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB101(7.5)	P404204-39	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB101(10)	P404204-40	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
230SB101(5.5)	P404204-41	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(3)	P404204-42	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure



**Table E2**  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB116(3)	P404204-42	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(3)	P404204-42	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB116(3)	P404204-42	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(3)	P404204-42	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(3)	P404204-42	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB116(5)	P404204-43	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB116(5)	P404204-43	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(5)	P404204-43	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB116(5)	P404204-43	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(5)	P404204-43	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(5)	P404204-43	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB116(7)	P404204-44	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB116(7)	P404204-44	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(7)	P404204-44	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB116(7)	P404204-44	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(7)	P404204-44	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(7)	P404204-44	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
231SB116(10)	P404204-45	6020	Arsenic	7440-38-2	J	Matrix spike/matrix spike duplicate RPD failure
231SB116(10)	P404204-45	6020	Cadmium	7440-43-9	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(10)	P404204-45	6020	Chromium	7440-47-3	J-	MS/MSD %R failure, MS/MSD RPD failure
231SB116(10)	P404204-45	6020	Lead	7439-92-1	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(10)	P404204-45	6020	Nickel	7440-02-0	J+	MS/MSD %R failure, MS/MSD RPD failure
231SB116(10)	P404204-45	6020	Zinc	7440-66-6	J+	MS/MSD %R failure, MS/MSD RPD failure, ICP Serial dilution failure
228SB102(16)	P404234-06	6020	Cadmium	7440-43-9	U	Blank contamination
38SB103(12)	P404234-07	6020	Cadmium	7440-43-9	U	Blank contamination
DUP040604	P404234-08	6020	Cadmium	7440-43-9	U	Blank contamination
228SB101(4.5)	P404234-23	6020	Lead	7439-92-1	J	ICP Serial dilution failure
228SB102(7.5)	P404234-25	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB103(1.5)	P404234-26	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB103(5)	P404234-27	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB103(7.5)	P404234-28	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB102(1.0)	P404234-29	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB102(3.5)	P404234-30	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB102(5.5)	P404234-31	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB102(10)	P404234-32	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB103(10)	P404234-33	6020	Lead	7439-92-1	J	ICP Serial dilution failure
38SB102(12)	P404235-01	6020	Cadmium	7440-43-9	U	Blank contamination
38SB102(12)	P404235-01	6020	Chromium	7440-47-3	U	Blank contamination
38SB102(12)	P404235-01	6020	Zinc	7440-66-6	U	Blank contamination



Table E2  
Qualified Data Summary  
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Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
231SB105(12)	P404235-02	6020	Zinc	7440-66-6	U	Blank contamination
231SB104(12)	P404235-03	6020	Zinc	7440-66-6	U	Blank contamination
DUP040704-3	P404235-04	6020	Zinc	7440-66-6	U	Blank contamination
38SB101(10.5)	P404235-07	6020	Arsenic	7440-38-2	U	Blank contamination
38SB101(10.5)	P404235-07	6020	Cadmium	7440-43-9	U	Blank contamination
38SB101(10.5)	P404235-07	6020	Chromium	7440-47-3	U	Blank contamination
38SB101(10.5)	P404235-07	6020	Zinc	7440-66-6	U	Blank contamination
38SB100(10.5)	P404235-08	6020	Arsenic	7440-38-2	U	Blank contamination
38SB100(10.5)	P404235-08	6020	Cadmium	7440-43-9	U	Blank contamination
38SB100(10.5)	P404235-08	6020	Chromium	7440-47-3	U	Blank contamination
38SB100(10.5)	P404235-08	6020	Zinc	7440-66-6	U	Blank contamination
38SB100RB	P404235-09	6020	Zinc	7440-66-6	U	Blank contamination
231SB105(3)	P404235-12	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(3)	P404235-12	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(5.5)	P404235-13	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(5.5)	P404235-13	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(5.5)	P404235-13	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
231SB105(7.0)	P404235-14	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(7.0)	P404235-14	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(7.0)	P404235-14	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
231SB105(10)	P404235-15	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(10)	P404235-15	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB105(10)	P404235-15	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
231SB104(3)	P404235-16	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(3)	P404235-16	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(3)	P404235-16	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
231SB104(5)	P404235-17	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(5)	P404235-17	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(5)	P404235-17	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
231SB104(7)	P404235-18	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(7)	P404235-18	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(7)	P404235-18	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
231SB104(10)	P404235-19	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(10)	P404235-19	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
231SB104(10)	P404235-19	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
38SB101(3)	P404235-20	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(3)	P404235-20	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(3)	P404235-20	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(3)	P404235-20	6020	Nickel	7440-02-0	J	ICP Serial dilution failure



**Table E2**  
**Qualified Data Summary**  
**Building 207/231 Site**  
**The Presidio of San Francisco, CA**

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
38SB101(5.5)	P404235-22	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(5.5)	P404235-22	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(5.5)	P404235-22	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(5.5)	P404235-22	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
38SB101(10)	P404235-23	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(10)	P404235-23	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(10)	P404235-23	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(10)	P404235-23	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
38SB101(0.5)	P404235-25	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(0.5)	P404235-25	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(0.5)	P404235-25	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB101(0.5)	P404235-25	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
38SB100(1)	P404235-26	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(1)	P404235-26	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(1)	P404235-26	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(1)	P404235-26	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
38SB100(3)	P404235-27	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(3)	P404235-27	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(3)	P404235-27	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(3)	P404235-27	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
38SB100(5)	P404235-28	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(5)	P404235-28	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(5)	P404235-28	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
38SB100(5)	P404235-28	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
385SB100(10)	P404235-29	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
385SB100(10)	P404235-29	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
385SB100(10)	P404235-29	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
385SB100(10)	P404235-29	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
208SB100(6)	P404235-35	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(6)	P404235-35	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(6)	P404235-35	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(6)	P404235-35	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
208SB100(7.5)	P404235-36	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(7.5)	P404235-36	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(7.5)	P404235-36	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(7.5)	P404235-36	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
208SB100(10)	P404235-37	6020	Chromium	7440-47-3	J+	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(10)	P404235-37	6020	Lead	7439-92-1	J-	Matrix spike/matrix spike duplicate percent recovery failure
208SB100(10)	P404235-37	6020	Zinc	7440-66-6	J-	Matrix spike/matrix spike duplicate percent recovery failure



Table E2  
Qualified Data Summary  
Building 207/231 Site  
The Presidio of San Francisco, CA

Sample ID	Lab ID	Analysis Method	Compound	CAS Number	Qualifier	Reason
208SB100(10)	P404235-37	6020	Nickel	7440-02-0	J	ICP Serial dilution failure
207SB105(3.5)	P404268-22	6020	Lead	7439-92-1	J	ICP Serial dilution failure
271SB100(2)	P404268-23	6020	Lead	7439-92-1	J	ICP Serial dilution failure
271SB100(3.5)	P404268-24	6020	Lead	7439-92-1	J	ICP Serial dilution failure
271SB100(5)	P404268-25	6020	Lead	7439-92-1	J	ICP Serial dilution failure
271SB100(7)	P404268-26	6020	Lead	7439-92-1	J	ICP Serial dilution failure
271SB100(9.5)	P404268-27	6020	Lead	7439-92-1	J	ICP Serial dilution failure
207SB104(3)	P404268-32	6020	Lead	7439-92-1	J	ICP Serial dilution failure

**U:** The sample result was changed to non-detect (U) due to blank contamination.

**UJ:** The quantitation limit is considered an estimated value for this non-detected analyte.

**J:** The sample result is considered an estimated value.

**J-:** The sample result is considered an estimated value with a low bias.

**J+:** The sample result is considered an estimated value with a high bias.

**R:** The sample result is rejected and is not usable, due to a serious QC failure.



Table E3  
Summary of Field Duplicates  
Building 207/231 Site  
The Presidio of San Francisco, CA

Original Sample #	Lab ID	Matrix	Compound	Orig. Result ug/L	Duplicate Sample #	Lab ID	Dup. Result ug/L	RPD
38SB103(12)	P404234-07	Water	Toluene	1.3	DUP040604	P404234-08	1.5	-14%
38SB103(12)	P404234-07	Water	All other VOCs	ND	DUP040604	P404234-08	ND	NA
38SB103(12)	P404234-07	Water	Acenaphthene	0	DUP040604	P404234-08	0.053	NC
38SB103(12)	P404234-07	Water	Acenaphthylene	0	DUP040604	P404234-08	0.044	NC
38SB103(12)	P404234-07	Water	Anthracene	0	DUP040604	P404234-08	0.043	NC
38SB103(12)	P404234-07	Water	Benzo(a)anthracene	0	DUP040604	P404234-08	0.2	NC
38SB103(12)	P404234-07	Water	Benzo(a)pyrene	0	DUP040604	P404234-08	0.3	NC
38SB103(12)	P404234-07	Water	Benzo(b)fluoranthene	0.051	DUP040604	P404234-08	0.45	-159%
38SB103(12)	P404234-07	Water	Benzo(g,h,i)perylene	0	DUP040604	P404234-08	0.19	NC
38SB103(12)	P404234-07	Water	Benzo(k)fluoranthene	0	DUP040604	P404234-08	0.11	NC
38SB103(12)	P404234-07	Water	Chrysene	0	DUP040604	P404234-08	0.31	NC
38SB103(12)	P404234-07	Water	Fluoranthene	0	DUP040604	P404234-08	0.32	NC
38SB103(12)	P404234-07	Water	Fluorene	0	DUP040604	P404234-08	0.19	NC
38SB103(12)	P404234-07	Water	Indeno(1,2,3-cd)pyrene	0	DUP040604	P404234-08	0.13	NC
38SB103(12)	P404234-07	Water	Naphthalene	0	DUP040604	P404234-08	0.16	NC
38SB103(12)	P404234-07	Water	Phenanthrene	0	DUP040604	P404234-08	0.35	NC
38SB103(12)	P404234-07	Water	Pyrene	0.049	DUP040604	P404234-08	0.46	-161%
38SB103(12)	P404234-07	Water	All other PAHs	ND	DUP040604	P404234-08	ND	NA
38SB103(12)	P404234-07	Water	TPH-Gasoline	36	DUP040604	P404234-08	78	NC
38SB103(12)	P404234-07	Water	TPH-Diesel	ND	DUP040604	P404234-08	ND	NA
38SB103(12)	P404234-07	Water	TPH-Fuel Oil	ND	DUP040604	P404234-08	ND	NA
38SB103(12)	P404234-07	Water	Unknown Fuel HCs	0.21	DUP040604	P404234-08	0.25	-17%
38SB103(12)	P404234-07	Water	Arsenic	7.2	DUP040604	P404234-08	7.4	-3%
38SB103(12)	P404234-07	Water	Cadmium	0.39	DUP040604	P404234-08	0.26	40%
38SB103(12)	P404234-07	Water	Chromium	ND	DUP040604	P404234-08	ND	NA
38SB103(12)	P404234-07	Water	Lead	ND	DUP040604	P404234-08	ND	NA
38SB103(12)	P404234-07	Water	Nickel	7.4	DUP040604	P404234-08	6.6	11%
38SB103(12)	P404234-07	Water	Zinc	ND	DUP040604	P404234-08	ND	NA
231SB104(12)	P404235-03	Water	Ethylbenzene	1.5	DUP040704-3	P404235-04	0.99	41%
231SB104(12)	P404235-03	Water	1,2-Dichloroethane	0	DUP040704-3	P404235-04	0.86	NC
231SB104(12)	P404235-03	Water	Toluene	3.1	DUP040704-3	P404235-04	2.6	18%



Table E3  
Summary of Field Duplicates  
Building 207/231 Site  
The Presidio of San Francisco, CA

Original Sample #	Lab ID	Matrix	Compound	Orig. Result ug/L	Duplicate Sample #	Lab ID	Dup. Result ug/L	RPD
231SB104(12)	P404235-03	Water	Chlorobenzene	0.15	DUP040704-3	P404235-04	0	NC
231SB104(12)	P404235-03	Water	Acetone	9.9	DUP040704-3	P404235-04	5.4	NC
231SB104(12)	P404235-03	Water	Benzene	49	DUP040704-3	P404235-04	41	18%
231SB104(12)	P404235-03	Water	2-Butanone	2.2	DUP040704-3	P404235-04	0	NC
231SB104(12)	P404235-03	Water	o-Xylene	0.67	DUP040704-3	P404235-04	0.52	25%
231SB104(12)	P404235-03	Water	m + p - Xylene	5.5	DUP040704-3	P404235-04	3.8	37%
231SB104(12)	P404235-03	Water	All other VOCs	ND	DUP040704-3	P404235-04	ND	NA
231SB104(12)	P404235-03	Water	Acenaphthene	0.47	DUP040704-3	P404235-04	0.44	7%
231SB104(12)	P404235-03	Water	Anthracene	0.1	DUP040704-3	P404235-04	0.07	35%
231SB104(12)	P404235-03	Water	Benzo(a)anthracene	0	DUP040704-3	P404235-04	0.094	NC
231SB104(12)	P404235-03	Water	Benzo(a)pyrene	0	DUP040704-3	P404235-04	0.11	NC
231SB104(12)	P404235-03	Water	Benzo(b)fluoranthene	0	DUP040704-3	P404235-04	0.19	NC
231SB104(12)	P404235-03	Water	Benzo(g,h,i)perylene	0	DUP040704-3	P404235-04	0.081	NC
231SB104(12)	P404235-03	Water	Chrysene	0	DUP040704-3	P404235-04	0.11	NC
231SB104(12)	P404235-03	Water	Fluoranthene	0.037	DUP040704-3	P404235-04	0.13	NC
231SB104(12)	P404235-03	Water	Fluorene	0.082	DUP040704-3	P404235-04	0.12	-38%
231SB104(12)	P404235-03	Water	Naphthalene	0.23	DUP040704-3	P404235-04	3.6	-176%
231SB104(12)	P404235-03	Water	Phenanthrene	1.6	DUP040704-3	P404235-04	0.73	75%
231SB104(12)	P404235-03	Water	Pyrene	0	DUP040704-3	P404235-04	0.16	NC
231SB104(12)	P404235-03	Water	All other PAHs	ND	DUP040704-3	P404235-04	ND	NA
231SB104(12)	P404235-03	Water	TPH-Gasoline	840	DUP040704-3	P404235-04	790	6%
231SB104(12)	P404235-03	Water	TPH-Diesel	ND	DUP040704-3	P404235-04	ND	NA
231SB104(12)	P404235-03	Water	TPH-Fuel Oil	ND	DUP040704-3	P404235-04	ND	NA
231SB104(12)	P404235-03	Water	Unknown Fuel HCs	1900	DUP040704-3	P404235-04	1400	30%
231SB104(12)	P404235-03	Water	All PCBs	ND	DUP040704-3	P404235-04	ND	NA
231SB104(12)	P404235-03	Water	Lead	0	DUP040704-3	P404235-04	0.76	NC
231SB104(12)	P404235-03	Water	Nickel	12	DUP040704-3	P404235-04	15	-22%
231SB104(12)	P404235-03	Water	Zinc	14	DUP040704-3	P404235-04	34	NC



Table E3  
Summary of Field Duplicates  
Building 207/231 Site  
The Presidio of San Francisco, CA

Original Sample #	Lab ID	Matrix	Compound	Orig. Result ug/L	Duplicate Sample #	Lab ID	Dup. Result ug/L	RPD
231SB115(16)	P404268-02	Water	TPH-Gasoline	49	DUP040804	P404268-03	24	NC
231SB115(16)	P404268-02	Water	TPH-Diesel	ND	DUP040804	P404268-03	ND	NA
231SB115(16)	P404268-02	Water	TPH-Fuel Oil	ND	DUP040804	P404268-03	ND	NA
231SB115(16)	P404268-02	Water	Unknown Fuel HCs	60	DUP040804	P404268-03	79	-27%
231SB115(16)	P404268-02	Water	BTEX	ND	DUP040804	P404268-03	ND	NA

**ND:** Non-detected

**NC:** Not calculated. The absolute difference between the sample result and the duplicate sample result is less than the reporting limit.

**NA:** Not applicable. Calculation of the relative percent difference between the sample result and the duplicate sample result is not applicable.



## **DISTRIBUTION**

Data Gaps Investigation Report  
Building 207/231 Area  
Presidio of San Francisco  
San Francisco, California


December 16, 2004

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